# XR-C290

# SERVICE MANUAL

*E Model*

| | |
|---|---|
| Model Name Using Similar Mechanism | XR-C300 |
| Tape Transport Mechanism Type | MG-50EX2-39 |

## SPECIFICATIONS

### Cassette player section

| | |
|---|---|
| Tape track | 4-track 2-channel stereo |
| Wow and flutter | 0.08 % (WRMS) |
| Frequency response | 30 — 18,000 Hz |
| Signal-to-noise ratio | 58 dB |

### Tuner section

**FM**

| | |
|---|---|
| Tuning range | FM tuning interval:<br>50 kHz/200 kHz switchable<br>87.5 – 108.0 MHz<br>(at 50 kHz step)<br>87.5 – 107.9 MHz<br>(at 200 kHz step) |
| Antenna terminal | External antenna connector |
| Intermediate frequency | 10.7 MHz |
| Usable sensitivity | 8 dBf |
| Selectivity | 75 dB at 400 kHz |
| Signal-to-noise ratio | 65 dB (stereo),<br>68 dB (mono) |
| Harmonic distortion at 1 kHz | 0.5 % (stereo),<br>0.3 % (mono) |
| Separation | 35 dB at 1 kHz |
| Frequency response | 30 – 15,000 Hz |
| Capture ratio | 2 dB |

**MW/SW**

| | |
|---|---|
| Tuning range | MW tuning interval:<br>9 kHz/10 kHz switchable<br>531 – 1,602 kHz<br>(at 9kHz step)<br>530 – 1,710 kHz<br>(at 10 kHz step)<br>SW tuning interval:<br>SW1: 2,940 – 7,735 kHz<br>SW2: 9,500 – 18,135kHz<br>(except for 10,140 – 11,575 kHz) |
| Antenna terminal | External antenna connector |
| Intermediate frequency | 10.71 MHz/450 kHz |
| Sensitivity | 30 µV |

### Power amplifier section

| | |
|---|---|
| Outputs | Speaker outputs<br>(sure seal connectors) |
| Speaker impedance | 4 – 8 ohms |
| Maximum power output | 25 W × 4 (at 4 ohms) |

### General

| | |
|---|---|
| Outputs | Rear line out<br>Left (1)<br>Right (1)<br>Power amplifier control lead<br>Power antenna relay control lead |
| Tone controls | Bass ±8 dB at 100 Hz<br>Treble ±8 dB at 10 kHz |
| Power requirements | 12 V DC car battery<br>(negative ground) |
| Dimensions | Approx. 188 × 58 × 177 mm<br>(w/h/d) |
| Mounting dimension | Approx. 182 × 53 × 155 mm<br>(w/h/d) |
| Mass | Approx. 1.2 kg |
| Supplied accessories | Parts for installation and connections (1 set)<br>Front panel case (1) |

*Design and specifications are subject to change without notice.*

## FM/MW/SW CASSETTE CAR STEREO

SONY®

## TABLE OF CONTENTS


**1. GENERAL**

Location of controls ..... 3
Getting Started ..... 3
Cassette Player ..... 4
Radio ..... 5
Other Functions ..... 5
CD Changer ..... 5
Additional Information ..... 6
Connections ..... 8

**2. DISASSEMBLY**

2-1. Sub Panel Assy ..... 10
2-2. Heat Sink ..... 10
2-3. Mechanism Deck Block ..... 11
2-4. Main Board ..... 11

**3. ASSEMBLY OF MECHANISM DECK**

3-1. Installing the Loading Gears ..... 12
3-2. Installing the Reel Bracket ..... 12
3-3. Installing the Mode Lever and Pinch Levers ..... 13
3-4. Installing the Cassette Housing ..... 14
3-5. Installing the Loading Lever ..... 14
3-6. Positioning the Loading Levers ..... 15
3-7. Installing the Gear (Loading F) ..... 15

**4. MECHANICAL ADJUSTMENTS** ..... 16

**5. ELECTRICAL ADJUSTMENTS**

Deck Section ..... 16
Tuner Section ..... 17

**6. DIAGRAMS**

6-1. IC Pin Description ..... 20
6-2. Printed Wiring Boards—Main Section— ..... 22
6-3. Schematic Diagram—Main Section— ..... 25
6-4. Printed Wiring Board—Panel Section— ..... 29
6-5. Schematic Diagram—Panel Section— ..... 31

**7. EXPLODED VIEWS**

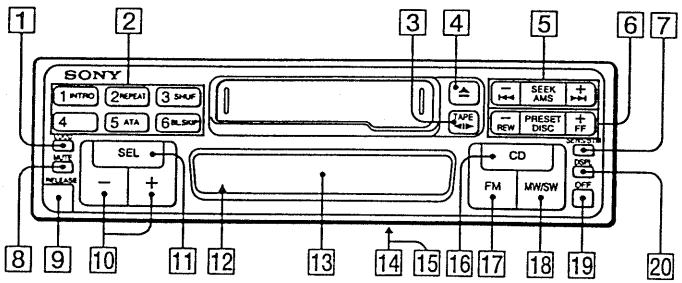
7-1. Chassis Section ..... 35
7-2. Front Panel Section ..... 36
7-3. Mechanism Deck Section ..... 37

**8. ELECTRICAL PARTS LIST** ..... 38


**Notes on Chip Component Replacement**

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

## Location of controls




EN

Refer to the pages for further details.

1 LOUD (loudness) button 8

2 During radio reception:
Preset number buttons 7

During tape/CD playback:
① INTRO button 6, 9
② REPEAT button 6, 9
③ SHUF button 9
⑤ ATA (Automatic Tuner Activation) button 6
⑥ BL.SKIP button 6

3 TAPE/◄II► (playback/transport direction change) button 5

4 ⏏ (eject) button 5

5 SEEK/AMS button 6, 7, 8

6 PRESET/DISC button 5, 6, 7, 8

7 SENS/BTM (Sensitivity adjust/Best tuning memory function) button 7

8 MUTE button 8

9 RELEASE (front panel release) button 4, 10

10 ⊕⊖ (volume/bass/treble/balance/fader control) button 5, 8

11 SEL (control mode select) button 5, 8

12 Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

13 Display window

14 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the installation/Connections manual.

15 Frequency Select switch (located on the bottom of the unit)
See "Frequency Select Switch" in the installation/connections manual.

16 CD (disc play/CD changer select) button 8

17 FM (radio on/band select) button 7

18 MW/SW (radio on/band select) button 7

19 OFF button 4, 5

20 DSPL (display mode change/time set) button 5, 6, 8

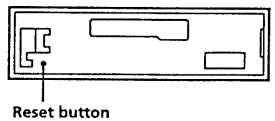




# Getting Started

## Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Press the reset button with a pointed object, such as a ball-point pen.



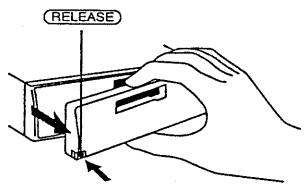

*Note*
*Pressing the reset button will erase all the memorized stations.*

EN

## Detaching the front panel

The front panel of this unit can be detached in order to prevent the unit from being stolen.

1 Press (OFF).
2 Press (RELEASE) to open up the front panel, and detach the panel by pulling it towards you.

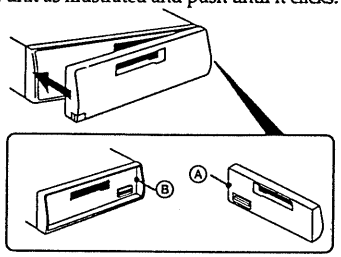



*Notes*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you press (RELEASE) to detach the panel while the unit is still turned on, the power will be automatically turned off in order to protect the speakers from being damaged.*
- *When you carry the front panel with you, put it in the supplied front panel case.*



### Attaching the front panel

Attach part Ⓐ of the front panel to part Ⓑ of the unit as illustrated and push until it clicks.




*Notes*
- *Make sure that the front panel is the right way up when attaching it to the unit as it cannot be attached upside down.*
- *Do not press the front panel hard against the unit when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.*
- *Do not press hard or give excessive pressure to the display windows of the front panel.*
- *Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.*

### Caution alarm

If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the Ⓐ position).

SECTION 1
GENERAL

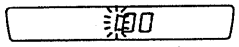
This section is extracted from instruction manual.

## Setting the clock

The clock has a 12-hour digital indication.
***For example, setting it to 10:08***

**1** Press (OFF) or (DSPL) during operation.

**2** Press (DSPL) for more than two seconds.

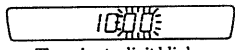


The hour digit blinks.

❶ Set the hour digits.

to go back to go forward

❷ Press (SEL) momentarily.

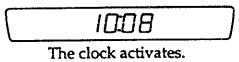


The minute digit blinks.

❸ Set the minute digits.

to go back to go forward

**3** Press (DSPL) momentarily.



The clock activates.

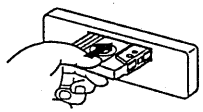
*Note*
*If the POWER SELECT switch on the bottom of the unit is set to the B position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio.*



# Cassette Player

## Listening to the tape

**Insert the cassette.**



Playback will start automatically.

If the cassette is already inserted, press (TAPE) to start playback.

The side facing up is being played.

The side facing down is being played.

*Tip*
*To change the tape transport direction, press (TAPE) during tape playback.*

| To | Press |
|---|---|
| Stop playback | (OFF) |
| Eject the cassette | ⏏ |

### Fast-winding the tape

**During playback, press either side of (PRESET/DISC).**

Rewind Fast-forward

To start playback during fast-forwarding or rewinding, press (TAPE).

EN EN

Getting Started/Cassette Player

### Locating the beginning of the tracks — Automatic Music Sensor (AMS)

You can skip up to nine tracks at one time.

**During playback, press either side of (SEEK/AMS) momentarily.**

To locate the previous tracks To locate the succeeding the tracks

*Note*
*The AMS function may not work when :*
- *the blanks between tracks are shorter than 4 seconds*
- *there are noises*
- *there are long sections of low volume or quiet sections.*

### Changing the displayed items

Each time you press (DSPL) momentarilly during tape playback, the displayed item changes as follows:

→ Tape playback → Clock → Frequency* →

* *While the ATA function is activated.*

## Playing the tape in various modes

### Searching the desired track — Intro scan

**Press (1) during playback.**
"INTRO" appears on the display.

The first 10 seconds of all the tracks are played.

When you find the desired track, press again.
The unit returns to the normal playback mode.

### Playing tracks repeatedly — Repeat play

**Press (2) during playback.**
"REP" appears on the display.

When the currently played track is over, it will be played again from the beginning.

To cancel this mode, press again.

### Switching to the radio during fast-winding the tape — Automatic Tuner Activation (ATA)

**Press (5) during playback.**
"ATA" appears on the display.

When fast-forwarding or rewinding with (PRESET/DISC), the tuner will turn on automatically.

### Skipping blanks during tape playback — Blank skip

**Press (6) during playback.**
"BL.SKIP" appears on the display.

Blanks longer than eight seconds will be automatically skipped during tape playback.

# Radio

## Memorizing stations automatically

— Best Tuning Memory (BTM)

This function selects from the currently received band the stations with the strongest signals and memorizes them in order of their frequency.

**PREVENTING ACCIDENTS!**
When tuning in during driving, use the automatic tuning and the memory preset search function instead of the manual tuning.

1 Press (FM) or (MW/SW) repeatedly and select the band.
Each time you press (FM) or (MW/SW), the band changes as follows:
(FM): FM1 → FM2 → FM3
(MW/SW): MW → SW1 → SW2

2 Press (SENS/BTM) for two seconds.

*Notes*
- *The unit will not store stations with weak band frequencies on the preset number buttons. If there are only a few stations received, some preset number buttons will remain empty.*
- *When there is a preset number indicated on the display window, the unit will store stations on all preset number buttons from the one currently displayed.*

## Memorizing only the desired Stations

Up to 6 stations on each band (FM1, FM2, FM3, MW, SW1 and SW2) can be stored on the preset number buttons in order of your choice. Therefore, 18 stations can be memorized on FM.
If you try to store another station on the same preset number button, the previously stored station will be erased.

1 Press (FM) or (MW/SW) repeatedly, and select the band.

2 Press (SEEK/AMS) to search for the station which you wish to store on the preset number button.

3 Press the desired preset number button (① to ⑥)for two seconds until a beep sounds.

The number of the pressed preset number button appears on the display window.

## Receiving the memorized stations

1 Press (FM) or (MW/SW) repeatedly, and select the band.

2 Press the preset number button (① to ⑥) momentarily on which the desired station is stored.

*Tip*
*Press either side of (PRESET/DISC) momentarily to receive in order the stations stored in the memory (Preset Search Function).*

### If FM stereo reception is poor
— Monaural mode

Press (SENS/BTM) momentarily until "MONO" lights up on the display.
The sound will improve, but it will become monaural. (The "ST" indication will disappear.)

### Changing the displayed items

Each time you press (DSPL), the display item changes as follows:
Frequency ⟷ Clock

### If you can't tune in a preset station

Press either side of (SEEK/AMS) momentarily to search for the station (automatic tuning).
The scanning stops when a station is received. Press either side of the button repeatedly until the desired station is received.

*Note*
*If the automatic tuning stops too frequently, press (SENS/BTM) momentarily until "LCL" lights up on the display (local seek mode). Only the stations with relatively strong signals can be tuned in.*

*Tip*
*If you know the frequency, press and hold either side of (SEEK/AMS) until the desired station is received (manual tuning).*



# Other Functions

## Adjusting the sound characteristics

1 Select the item you want to adjust by pressing (SEL) repeatedly.
VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader)

2 Adjust the selected item by pressing either (+) or (−).

Adjust within three seconds after selecting. (After three seconds the button will again serve as volume control button.)

## Muting the sound

Press (MUTE).
The "MUTE" indication flashes.

To restore the previous volume level, press again.

## Changing the sound and display settings

### Enjoying bass and treble even at Low Volume — Loudness

Bass and treble will be reinforced.

Press (LOUD).
"LOUD" will appear on the display.

To cancel, press these buttons again.

### Muting the beep tone

Press ⑥ while pressing (SEL).
To obtain the beep tone again, press these buttons once more.

# With the Optional Equipment
# CD Changer

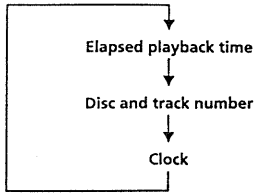
You can control two CD changers.

## Playing a CD

Press (CD) and select the changer.
CD playback starts.

When a CD changer is connected, all the tracks play from the beginning.

Each time you press (DSPL) momentarily during CD playback, the displayed item changes as follows:




### Locating a specific track
— Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) the number of times you wish to skip the tracks.

To locate the previous tracks — To locate the succeeding tracks

### Locating a specific point in a track
— Manual Search

During playback, press and hold either side of (SEEK/AMS). Release the button when you have found the desired part.

To reverse — To forward

### Switching to other discs

During playback, press either side of (PRESET/DISC).

To return to the previous disc — To advance to the next disc

## Scanning the tracks

— Intro scan

The first 10 seconds of all the tracks on the currently selected disc are played in order. After the first disc is over, the next disc is played.

Press ① during playback.
"INTRO" appears on the display.

When you find the desired track, press again . The unit returns to the normal CD playback mode.

## Playing tracks repeatedly

— Repeat play

### To repeat a track

Press ② repeatedly during CD playback until "REP 1" is displayed.

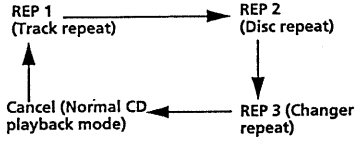
### To repeat a disc

Press ② repeatedly during CD playback until "REP 2" is displayed.

### To repeat all the discs in the current changer

Press ② repeatedly during CD playback until "REP 3" is displayed.

*Each time you press ② the display changes as follows:*




## Playing tracks in random order — Shuffle play

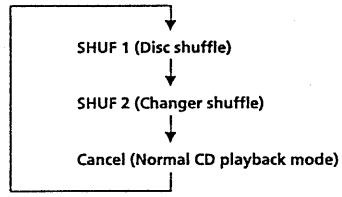
### To play the tracks on the current disc in a random order

Press ③ repeatedly during CD playback until "SHUF 1" is displayed.

### To play all the tracks in the current changer in a random order

Press ③ repeatedly during CD playback until "SHUF 2" is displayed.

*Each time you press ③ the display changes as follows:*




*If you press ① during shuffle play, the first 10 seconds of all tracks will be played in random order.*





# Additional Information

## Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before switching on.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of a 2-speaker system, set the fader control to the center position.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

### Notes on Cassettes

Cassette care

- Do not touch the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with built-in magnets such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.
- When the tape is played back for a long period, the cassette shell may become warm because of the built-in power amplifier. However, this is not a sign of a malfunction.

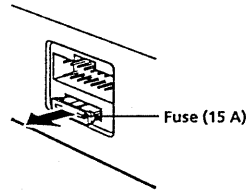
Cassettes longer than 90 minutes

The use of cassettes longer than 90 minutes is not recommended except for long continuous play. The tapes used for these cassettes are very thin and tend to be stretched easily. Frequent playing and stopping of these tapes may cause them to be pulled into the cassette deck mechanism.

## Maintenance

### Fuse Replacement

When replacing the fuse, be sure to use one matching the amperage rating stated on the fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

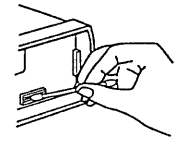



Warning

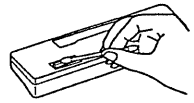
Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

### Cleaning the Connectors

The unit may not function properly if the connectors between the unit and the front panel are not clean. In order to prevent this, open the front panel by pressing (RELEASE), then detach it and clean with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connector may get damaged.



Main unit

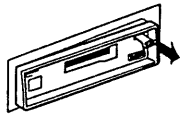


Back of the front panel

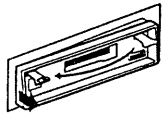
## Dismounting the unit

1

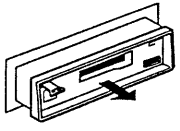
2



3



4



—7—

# Connections

## Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**

## When the Unit is Used in a Car with No Accessory Position on the Ignition Key

**— POWER SELECT Switch**

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if the unit is used in a car with no accessory position on the ignition key.** To avoid this battery wear when using the unit in such a car, **set the POWER SELECT switch located on the bottom of the unit to the ❽ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

***Note***

*The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ❽ position.*

## Frequency Select Switch

The MW (FM) tuning interval is factory-set to the 9K (50 K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10 K (200 K) position before making connections.

# Conexiones

## Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarillo** y **rojo** solamente después de haber conectado los demás.
- Cerciórese de conectar el cable conector de alimentación rojo a un terminal de 12 V positivo que se energice al poner la llave de encendido en la posición para accesorios.
- **Conecte todos los conductores de puesta a masa a un punto común.**

## Empleo de la unidad en un automóvil con llave de encendido sin posición para accesorios

**— Selector POWER SELECT**

La iluminación del panel frontal ha sido ajustada en fábrica para que esté activada incluso aunque la unidad no se encuentre en reproducción. Sin embargo, este ajuste puede provocar cierta descarga de la batería del automóvil **si la unidad se utiliza en un automóvil sin posición para accesorios en la llave de encendido.** Para evitar esto, **ponga el selector POWER SELECT situado en la base de la unidad en la posición ❽, y después presione el botón de reposición.** La iluminación estará desactivada cuando la unidad no se encuentre en reproducción.

***Nota***

*La alarma de precaución no se activará cuando el selector POWER SELECT se encuentre en la posición ❽.*

## Selector de frecuencia

El intervalo de sintonía de MW (FM) ha sido ajustado en fábrica a la posición 9 K (50 K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10 kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10 K (200 K) antes de realizar las conexiones.

# 線路之連接

## 注意

- 本機只可使用負極接地 12V 直流電操作。
- 連接以前，先拔取汽車電池的接地端子，以免發生短路。
- 紅色及黃色電源輸入導線必須等所有電線都連接完畢以後才可連接。
- 紅色電源輸入導線請連接到汽車發動機點火鑰匙被轉在輔助位置時才通電的正 12V 電源端子。
- 所有地線都必需連接到同一接地點才行。

## 若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用時

**— POWER SELECT 開關**

前板的照明發在未出廠以前，被設定在即使不使用時也會發亮的狀態。**若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用本機的話，**此照明燈將會一直消耗微量的汽車電池電力。因此爲了避免在這種狀態下的電池消耗，**請把本機底下的 POWER SELECT 開關設定在 ❽ 之處，**然後按壓前板的重調鍵。倒不使用本機時，照明燈便不發亮。

***註***

*POWER SELECT 開關被設定在 ❽ 的話，前板的操作鍵或幣告功能失效。*

## 頻率選擇開關

本裝置的 MW（FM）調諧區間在出廠以前被設定在 "9 K（50 K）" 位置上。若貴地的頻率區間爲 "10 kHz（200 kHz）"，連接以前請先把本機機底的選擇開關設定在 "10 K（200 K）" 之處。

# التوصيلات

## تنبيه

- هذه الوحدة مصممة للتشغيل على التيار المباشر ١٢ فولت بتأريض سالب فقط.
- قبل عمل التوصيلات، إفصل طرف توصيل الارضي لبطارية السيارة لتفادي حدوث تماس كهربي.
- قم بتوصيل اسلاك دخل التيار الاصفر والاحمر بعد الانتهاء من توصيل جميع الاسلاك الاخرى.
- تاكد من توصيل سلك دخل التيار الاحمر بطرف التيار ١٢ فولت الموجب الذي يعمل عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي.
- قم بتوصيل جميع اسلاك التأريض بنقطة تأريض مشترك.

## عند استعمال الوحدة في سيارة لم يجهز مفتاح تشغيل محركها بموضع ثانوي

**— مفتاح اختيار التيار POWER SELECT**

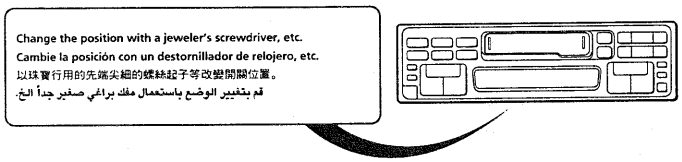
تمت تهيئة الاضاءة على اللوحة الامامية، في المصنع، بحيث تضيء حتى اثناء عدم استعمال الوحدة. إلا ان هذه التهيئة يمكن ان تسبب استهلاك بطارية السيارة اذا استعملت الوحدة في سيارة غير مجهزة بموضع ثانوي لمفتاح تشغيل المحرك. لتفادي استهلاك البطارية عند استعمال الوحدة في مثل تلك السيارة، اضبط المفتاح POWER SELECT الموجود بقاع الوحدة على الوضع ❽، ثم اضغط زر اعادة التهيئة. تعاد تهيئة الاشارة بحيث تظل مطفأة اثناء عدم استعمال الوحدة.

ملاحظة

*إنذار التنبيه للوحة الامامية لا يعمل عندما يكون المفتاح POWER SELECT مهيأ في الوضع ❽.*

## مفتاح اختيار التردد

مرحلة موالفة إيه إم (إف إم- مهيأة في المصنع على الوضع 9K(50K). اذا كان نظام تخصيص الترددات في بلدك يعتمد المرحلة ١٠ كيلوهرتز (٢٠٠ كيلوهرتز)، اضبط المفتاح الموجود بقاع الوحدة على الوضع 10K(200K) قبل عمل التوصيلات.


Change the position with a jeweler's screwdriver, etc.
Cambie la posición con un destornillador de relojero, etc.
以珠寶行用的先端尖細的螺絲起子等改變開關位置。
قم بتغيير الوضع باستعمال مفك براغي صغير جداً الخ.

When you change the position of the switch, be sure to press the reset button after the connections are completed.

Después de haber cambiado la posición del interruptor, cerciórese de presionar el botón de reposición cuando finalice las conexiones.

在改變開關位置時，切記在完成連接後按復位鍵。

عند تغيير موضع المفتاح، تاكد من ضغط زر اعارة التهيئة بعد الانتهاء من التوصيلات.

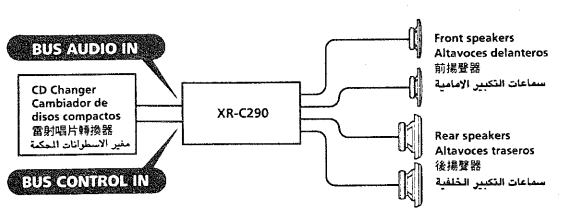
## Connection Diagram

## Diagrama de conexiones

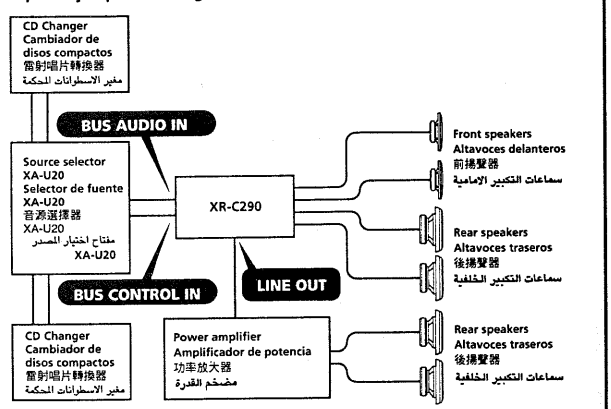
## 線路連接方塊圖

## مخطط التوصيل

**Example 1/Ejemplo 1/例 1/ مثال ١**




**Example 2/Ejemplo 2/例 2/ مثال ٢**




## Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc. The reset button is located on the left of the connector on the unit side when the front panel is detached.

## Botón de reposición

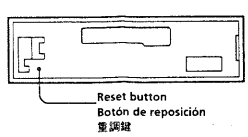
Cuando finalice la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc. El botón de reposición se encuentra a la izquierda el conector de la unidad cuando se extrae el panel front.

## 重調鍵

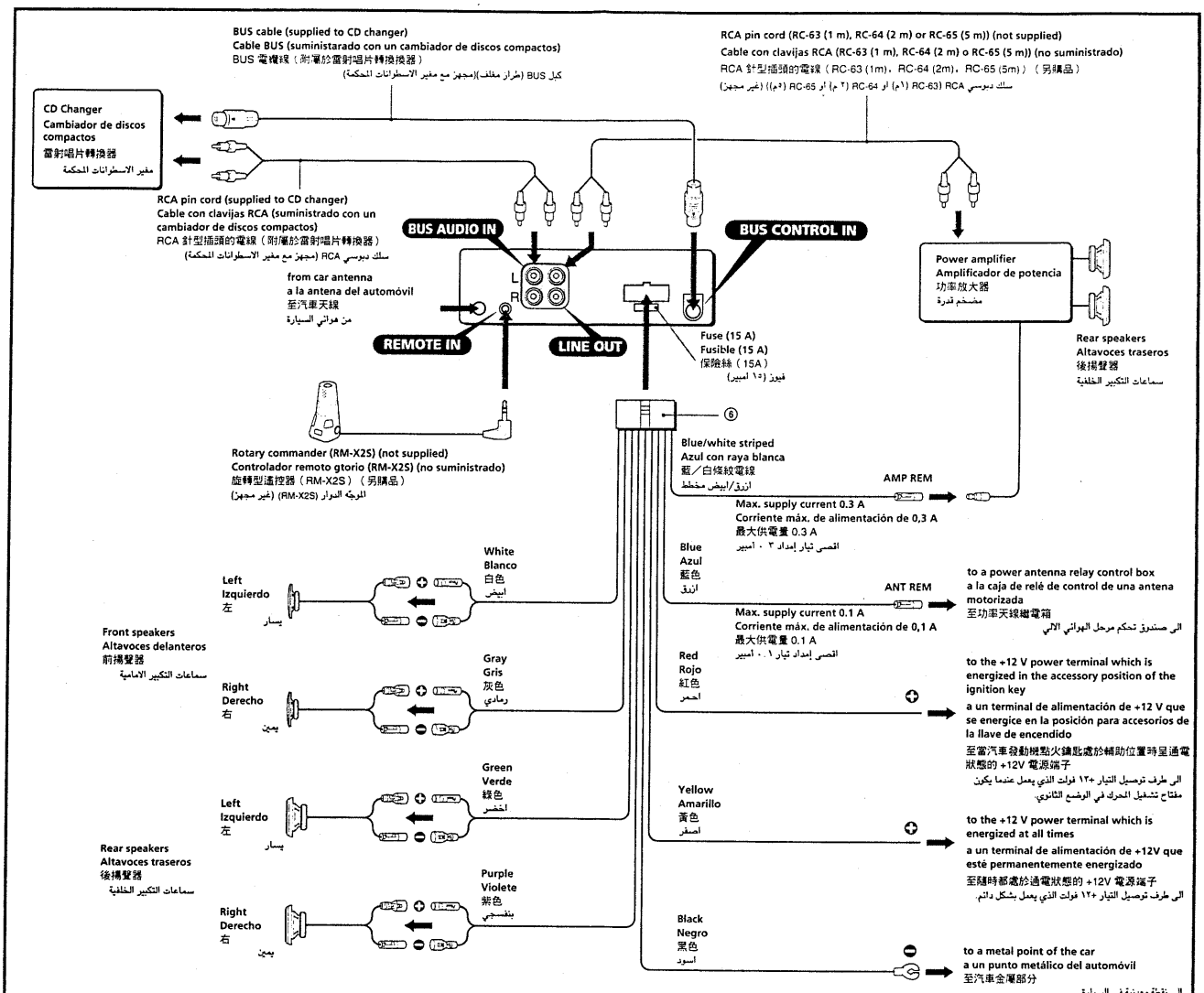
安裝和線路之連接完畢以後，請以原子筆等按壓重調鍵。取下前板時，倒可看到重調鍵位於本機連接器左邊。

## زر اعادة التهيئة

عند الانتهاء من التركيب والتوصيلات، تاكد من ضغط زر إعادة التهيئة باستعمال قلم جاف او اداة مشابهة. زر اعادة التهيئة موجود على يسار الموصل في جانب الوحدة عند نزع اللوحة الامامية.



## Connection Example　Ejemplo de conexiones　線路之連接圖例　توصيلات المثال




### Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) function.*
- *A power antenna without relay box cannot be used with this unit.*

### Memory hold connection

*When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.*

### Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

### Notas sobre conductores de control

- *El conductor de control de la antena motorizada (azul) suministrará +12 V CC cuando conecte la alimentación del sintonizador o cuando active la función de activación automática del sintonizador (ATA).*
- *Con esta unidad no podrá emplearse una antena motorizada desprovista de caja de relé.*

### Conexión para protección de la memoria

*Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición OFF.*

### Notas sobre la conexión de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 Ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

### 關於控制導線

- *接通調諧器電源時，功率天線的控制線（藍色）便能供給 12V 的電流。*
- *本機不能使用沒有繼電箱的功率天線。*

### 保持記憶的線路連接法

*當連接黃色電源輸入電線時，即使在點動機點火鑰匙控轉至電源切斷之後，電源仍將繼續供給電流給記憶用電線，以維持所記憶著的數據。*

### 連接揚聲器時的注意事項

- *連接揚聲器電線以前，請先切斷本機電源。*
- *揚聲器請使用阻抗 4 到 8 之間，並具有適合本機使用的電容量者，否則會損壞揚聲器。*
- *不可把揚聲器端子連接到汽車底盤，也不可把左揚聲器和右揚聲器相連接。*
- *揚聲器不可平行的連接。*
- *不可連接有源揚聲器（內裝有放大器者）至本機的揚聲器端子，否則會損壞揚聲器。這些端子請連接無源揚聲器。*

### ملاحظات حول اسلاك التحكم

- *سلك التحكم في الهوائي الآلي (أزرق) يقوم بامداد تيار مباشر ١٢+ فولت عند تشغيل الوالف او تشغيل وظيفة تشغيل الوالف تلقائياً ATA*
- *لا يمكن استعمال هوائي آلي بدون صندوق مرحل مع هذه الوحدة*

### وصلة حفظ الذاكرة

*عندما يكون سلك دخل التيار الاصفر موصلا، يتم امداد التيار بشكل مستمر الى دائرة الذاكرة حتى ولو كان مفتاح تشغيل المحرك في وضع الايقاف*

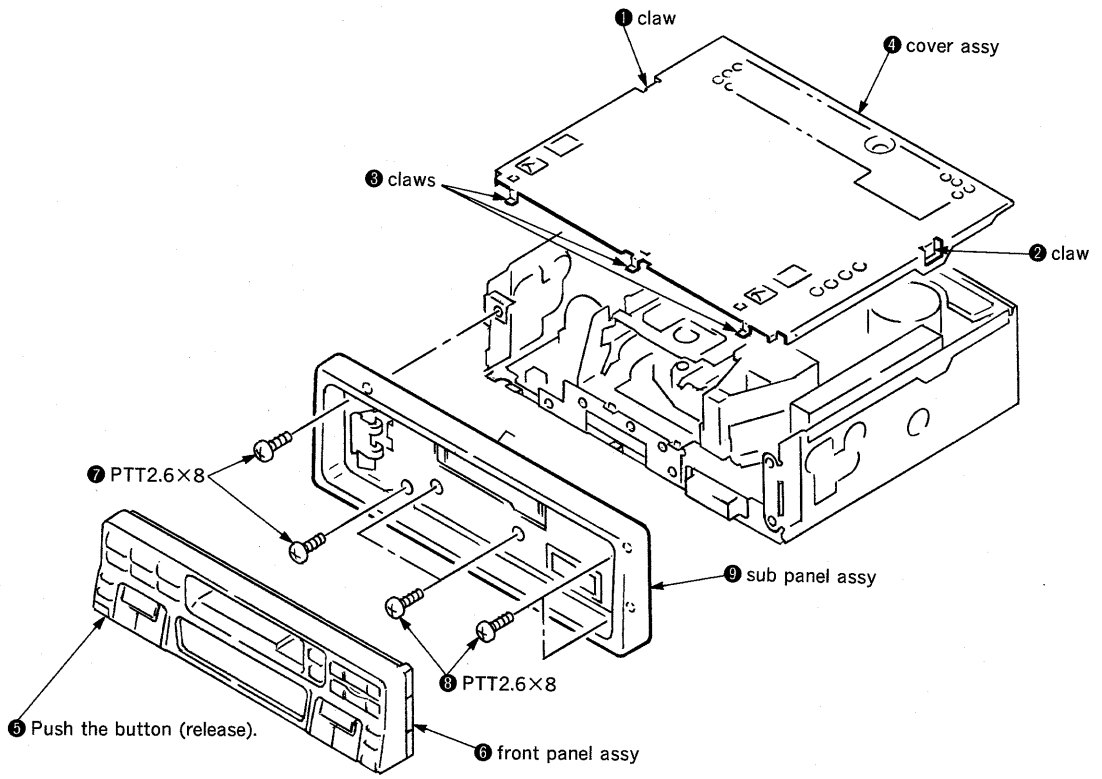
### ملاحظات حول توصيل سماعات التكبير

- *قبل توصيل السماعات، اوقف الوحدة*
- *إستعمل سماعات تكبير ذات معاوقة بين ٤ و ٨ اوم ولها سعة تحميل كافية للقدرة اذا لم تفعل ذلك، يمكن لسماعات التكبير ان تتلف*
- *لا تعمد الى توصيل اطراف توصيل نظام سماعات التكبير بهيكل السيارة القاعدي (الشاسي)، ولا تعمد الى توصيل اطراف توصيل سماعة التكبير اليمنى بتلك الخاصة بالسماعة اليسرى.*
- *لا تحاول توصيل سماعات التكبير على التوازي*
- *لا تعمد الى توصيل اي سماعة تكبير نشطة (بمضخم داخلي) باطراف توصيل سماعات التكبير لهذه الوحدة يمكن لهذا العمل ان يتلف سماعات التكبير النشطة لذا تأكد من توصيل سماعات تكبير غير نشطة بهذه الاطراف*

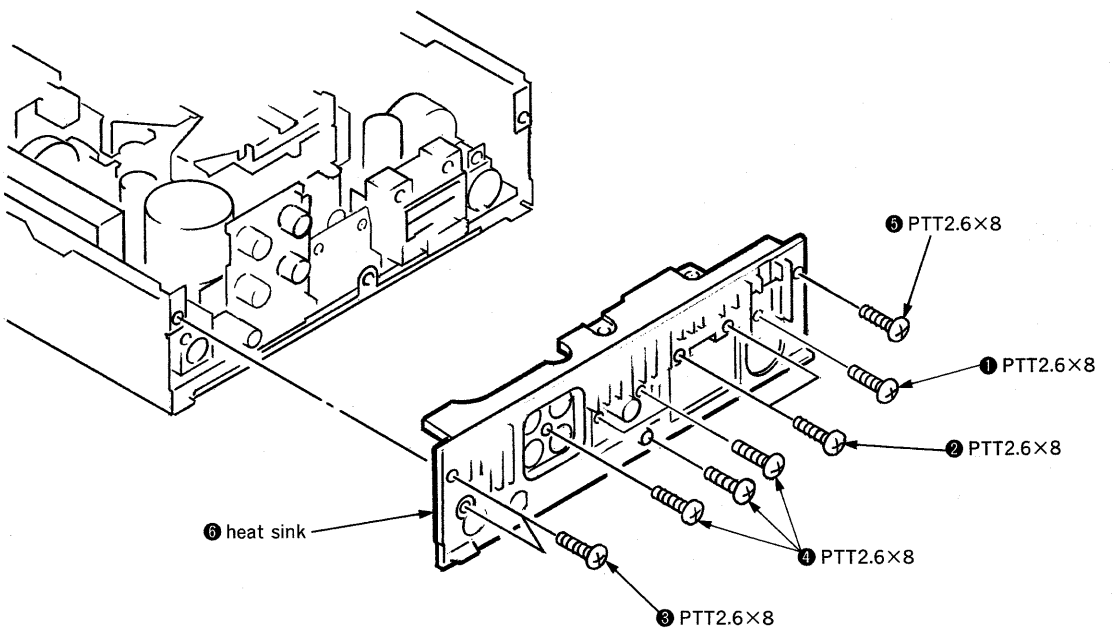
# SECTION 2
# DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

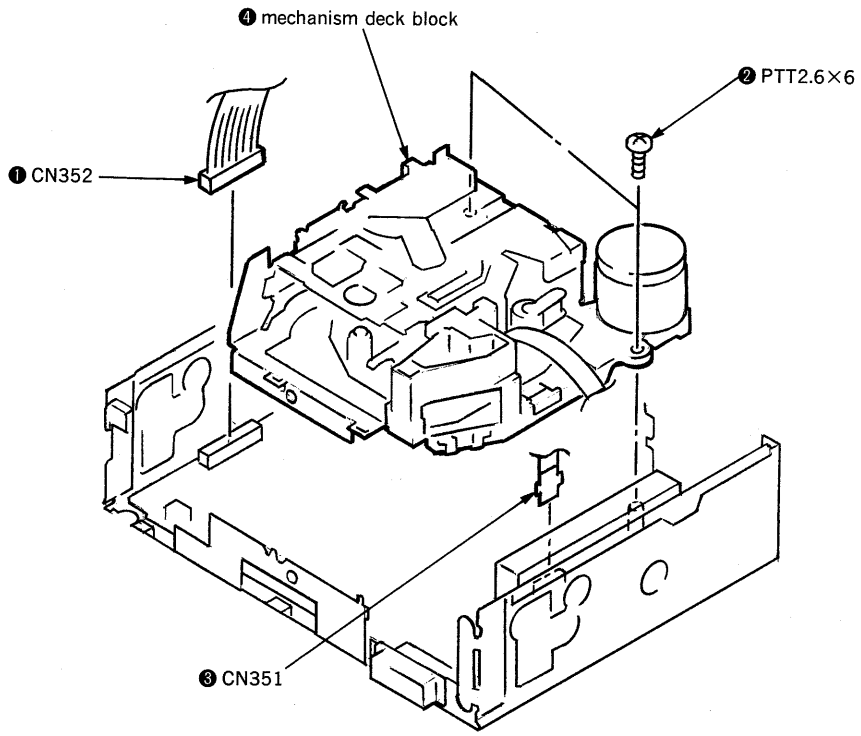
## 2-1. SUB PANEL ASSY



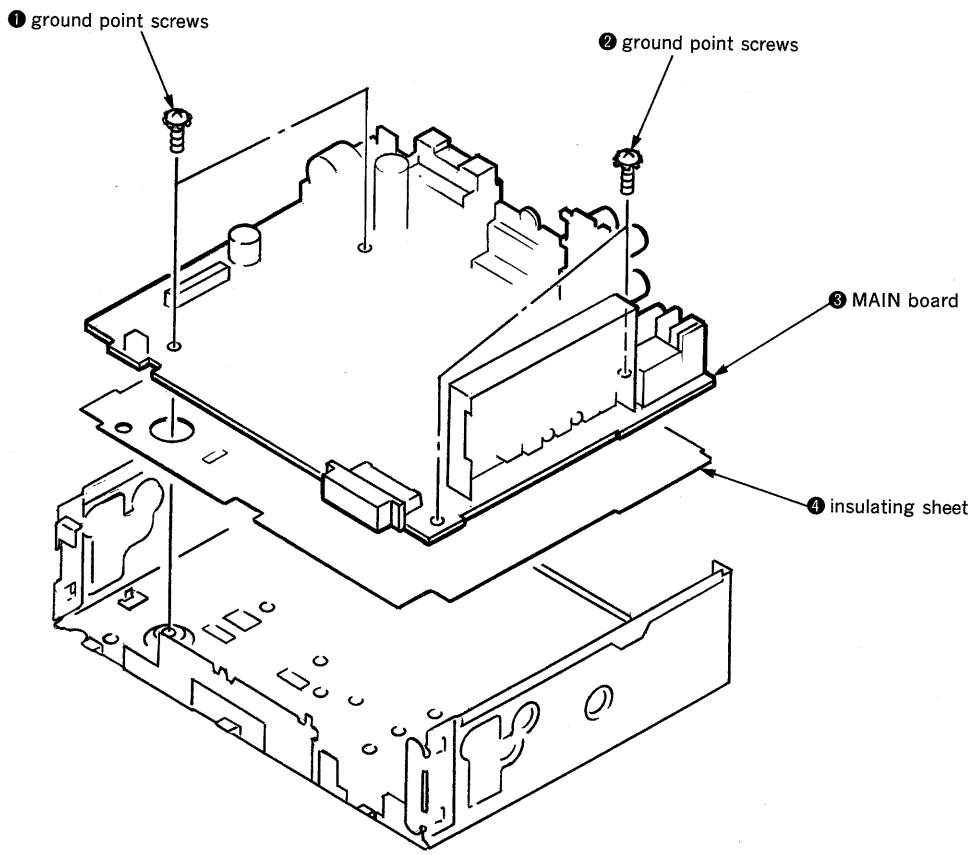

## 2-2. HEAT SINK



## 2-3. MECHANISM DECK BLOCK



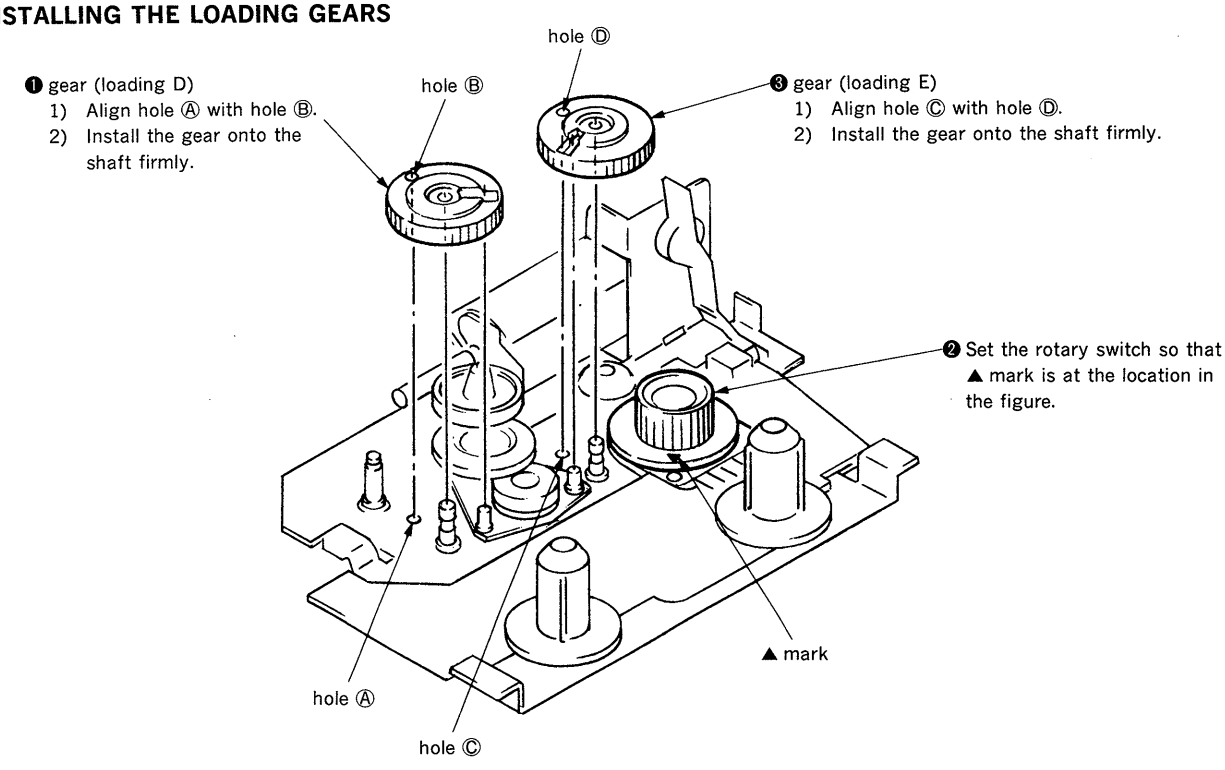

## 2-4. MAIN BOARD



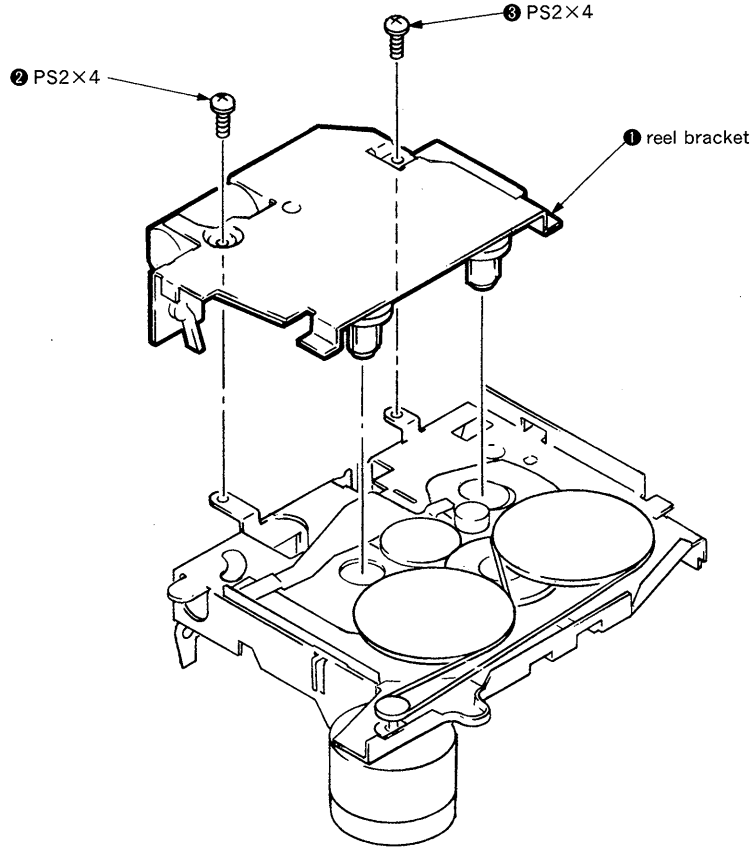
# SECTION 3
# ASSEMBLY OF MECHANISM DECK

**Note :** Follow the assembly procedure in the numerical order given.

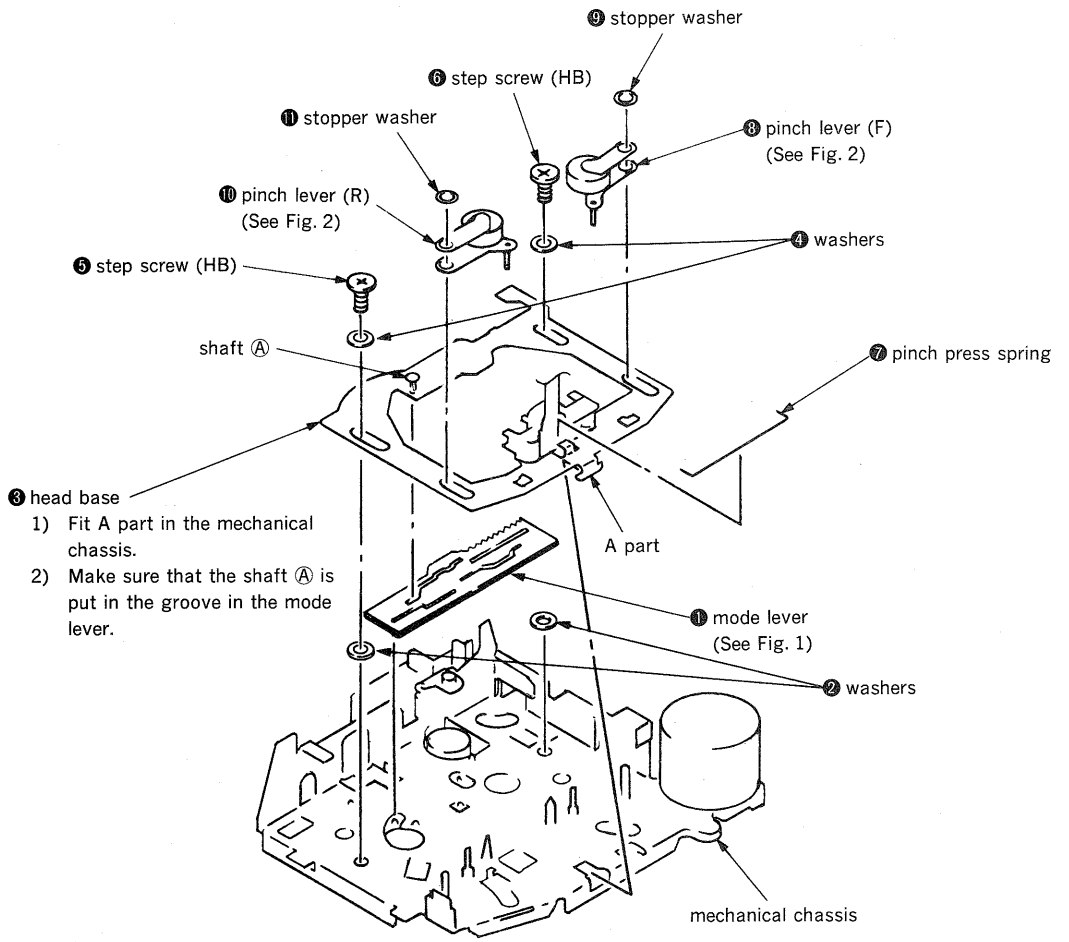
## 3-1. INSTALLING THE LOADING GEARS


❶ gear (loading D)
1) Align hole Ⓐ with hole Ⓑ.
2) Install the gear onto the shaft firmly.
hole Ⓑ
hole Ⓓ
❸ gear (loading E)
1) Align hole Ⓒ with hole Ⓓ.
2) Install the gear onto the shaft firmly.
❷ Set the rotary switch so that ▲ mark is at the location in the figure.
▲ mark
hole Ⓐ
hole Ⓒ

## 3-2. INSTALLING THE REEL BRACKET



## 3-3. INSTALLING THE MODE LEVER AND PINCH LEVERS




1) Align • mark on the rotary switch with hole on the mode lever.
2) Make sure that the two shafts and three projections are located as shown below.

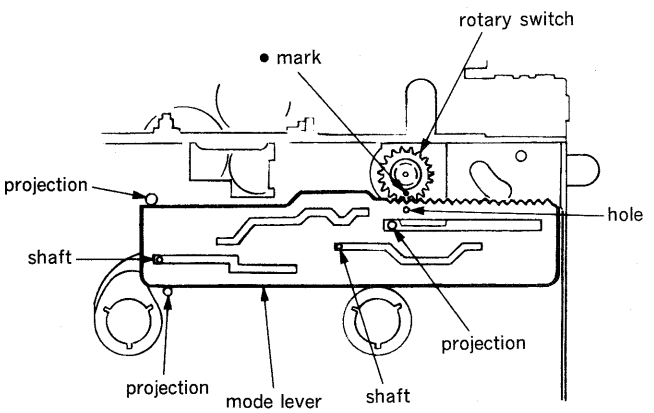



Fig. 1

1) Put the shafts of the pinch levers in the pinch press spring on its head side.

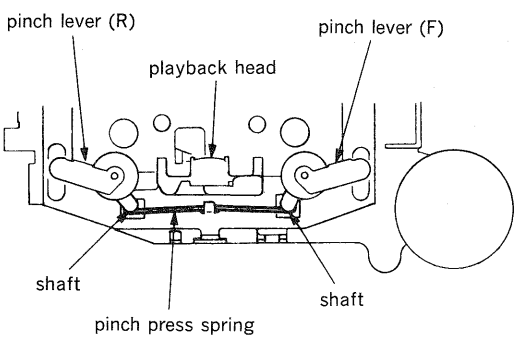
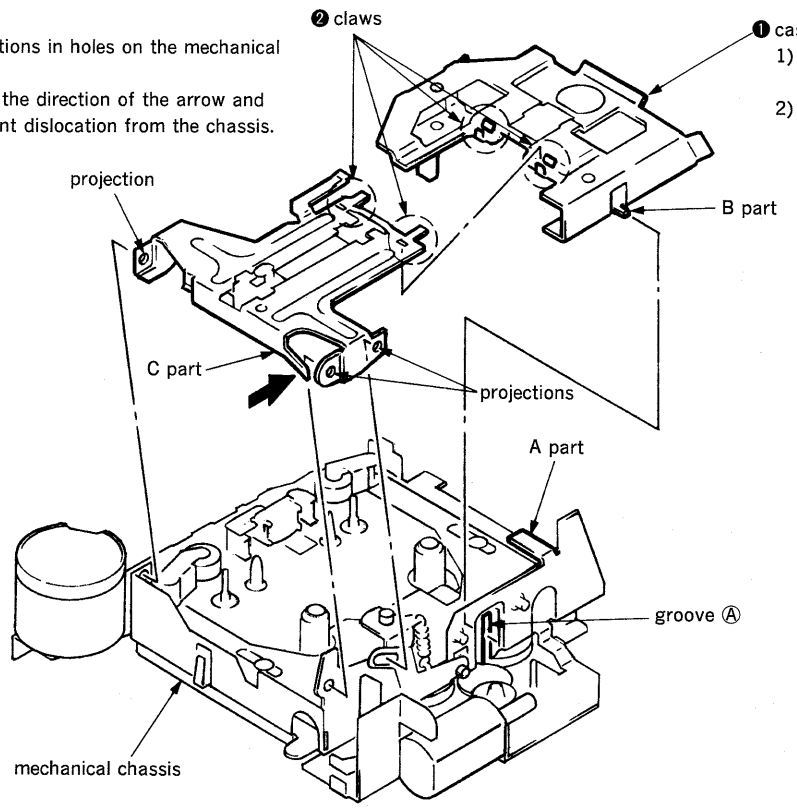



Fig. 2

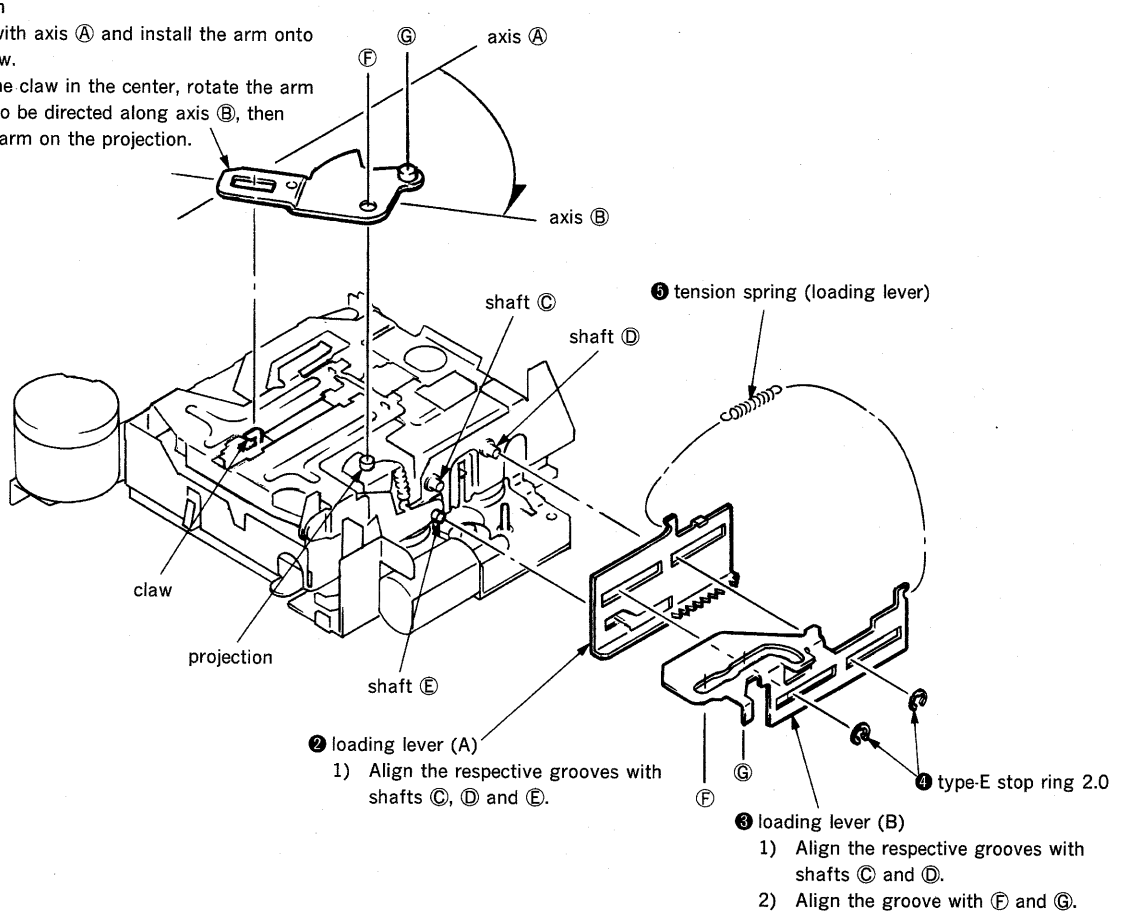
## 3-4. INSTALLING THE CASSETTE HOUSING

❸ housing hanger
1) Fit three projections in holes on the mechanical chassis.
2) Bend C part in the direction of the arrow and fasten to prevent dislocation from the chassis.

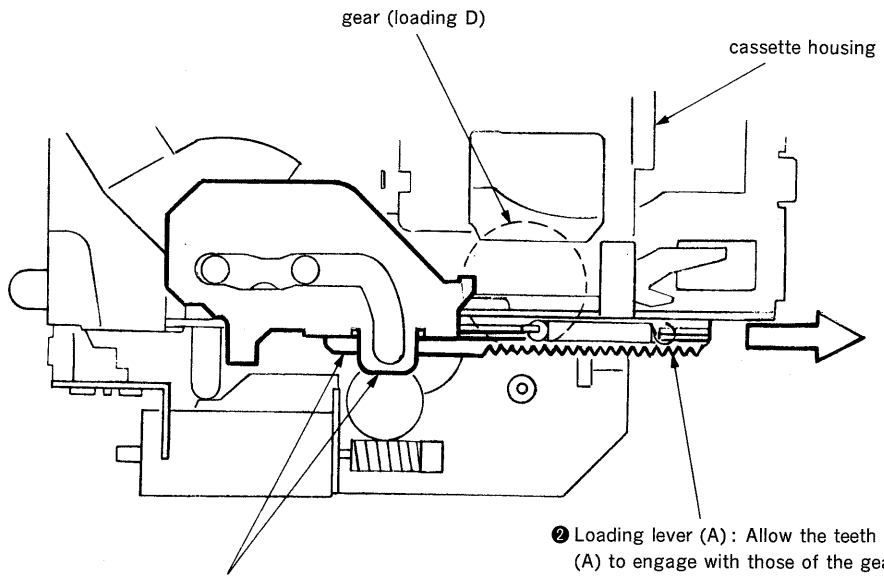



## 3-5. INSTALLING THE LOADING LEVER

❶ suction arm
1) Align with axis Ⓐ and install the arm onto the claw.
2) With the claw in the center, rotate the arm so as to be directed along axis Ⓑ, then fit the arm on the projection.



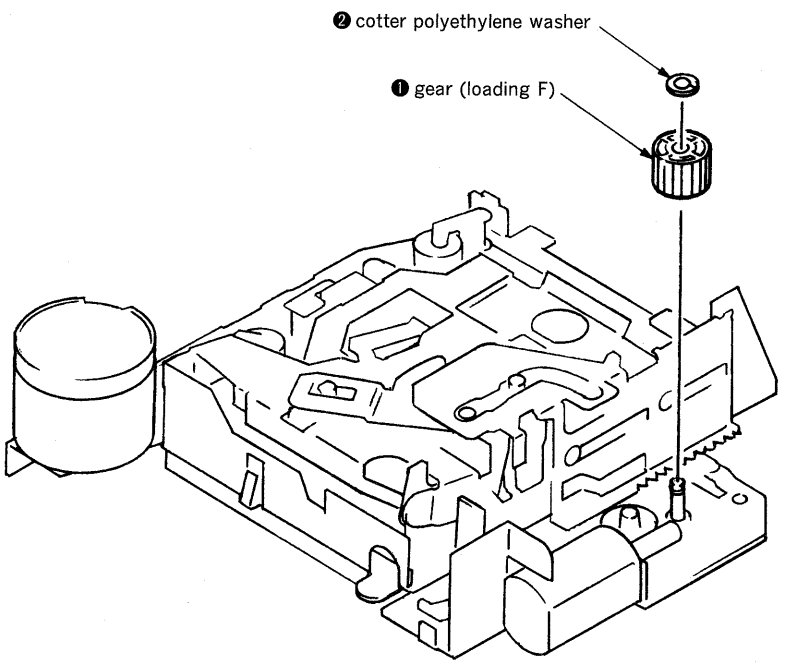
## 3-6. POSITIONING THE LOADING LEVERS




❶ Loading levers (A) and (B) : Move loading levers (A) and (B) in the direction of the arrow.
(The cassette housing is put down fully at this time.)

❷ Loading lever (A) : Allow the teeth of loading lever (A) to engage with those of the gear (loading D).
(Adjustment method : Retract loading lever (A) by 0.2 to 0.5mm in the opposite direction of the arrow.)

## 3-7. INSTALLING THE GEAR (LOADING F)



# SECTION 4
# MECHANICAL ADJUSTMENTS

## PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

### Torque Measurement

| Mode | Torque Meter | Meter Reading |
|---|---|---|
| FWD | CQ-102C | 30−65g•cm (0.42−0.90 oz•inch) |
| FWD Back Tension | | 0.5−4.5g•cm (0.01−0.06 oz•inch) |
| REV | CQ-102RC | 30−65g•cm (0.42−0.90 oz•inch) |
| REV Back Tension | | 0.5−4.5g•cm (0.01−0.06 oz•inch) |
| FF, REW | CQ-201B | 60−200g•cm (0.83−2.78 oz•inch) |

### Tape Tension Measurement

| Mode | Tension Meter | Meter Reading |
|---|---|---|
| FWD | CQ-403A | more than 90g (more than 3.18 oz) |
| REV | CQ-403R | |

# SECTION 5
# ELECTRICAL ADJUSTMENTS

## TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

〈Set the Test Mode〉

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

〈Release the Test Mode〉

1. Push the "OFF" button.

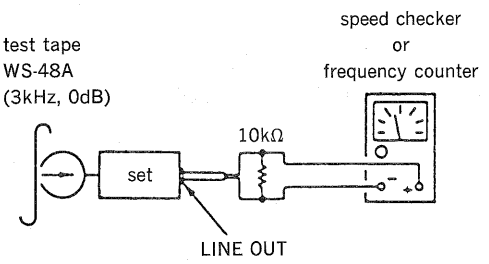
See the adjustment location from on page 19 for the adjustment.

**DECK SECTION**　**0dB=0.775V**

### Tape Speed Adjustment

**Procedure:**

1. Put the set into the FWD PB mode.




**Specification:** Constant speed

| Speed checker | Frequency counter |
|---|---|
| −1.5 to +2.5% | 2,955 to 3,075Hz |

**Adjustment Location:** See page 19.

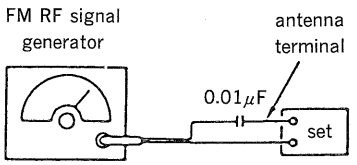
**TUNER SECTION** | **0dB=1μV**

**Cautions during repair**
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

## FM Auto Scan/Stop Level Adjustment

**Setting :**

FM button : FM

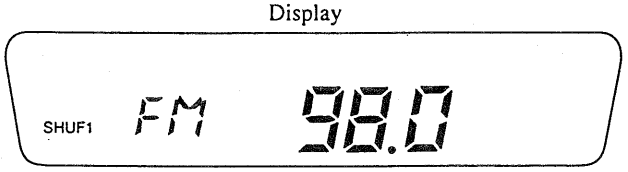



Carrier frequency : 98.0MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : 1kHz, 22.5kHz deviation (30%)

**Procedure :**

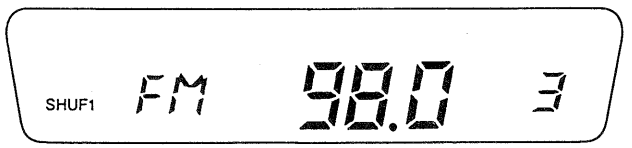
1. Set to the test mode. (See page 16.)
2. Push the [FM] button and set to FM.

Display



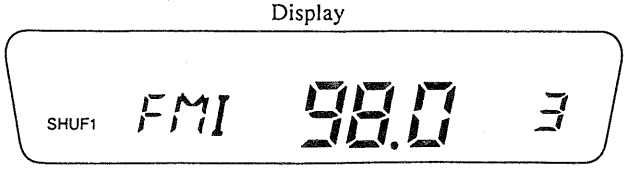

3. Push the preset [3] button.

Display




4. Adjust with the volume RV2 on TU1 so that put light " I " indication on the display window.
   But, in case of already indicated " I ", turn the RV2 so that put out light " I " indication and adjustment.

Display

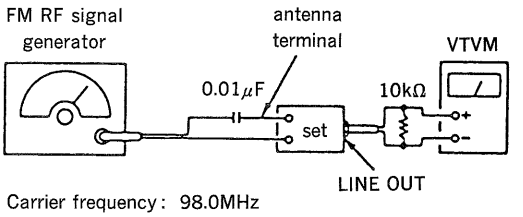



**Adjustment Location :** See page 19.

## FM Noise Focus Adjustment

**Setting :**

FM button : FM




Carrier frequency : 98.0MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation (100%)

**Procedure :**

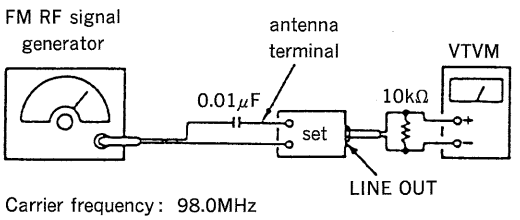
1. Tune the 98.0MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A)−32dB then signal generator input set to −20dB.

**Adjustment Location :** See page 19.

## FM Stereo Separation Adjustment

**Setting :**

FM button : FM




Carrier frequency : 98.0MHz
Output level : 70dB (3.2mV)
Mode : stereo
Modulation : main : 1kHz, 33.75kHz deviation (45%)
sub : 1kHz, 33.75kHz deviation (45%)
19kHz pilot : 7.5kHz deviation (10%)

**Procedure :**

| FM stereo signal generator output channel | VTVM connection | VTVM reading (dB) |
|---|---|---|
| L-CH | L-CH | Ⓐ |
| R-CH | L-CH | Ⓑ Adjust RV4 on TU1 for minimum reading. |
| R-CH | R-CH | Ⓒ |
| L-CH | R-CH | Ⓓ Adjust RV4 on TU1 for minimum reading. |

L-CH Stereo separation : Ⓐ−Ⓑ
R-CH Stereo separation : Ⓒ−Ⓓ
The separations of both channels should be equal.

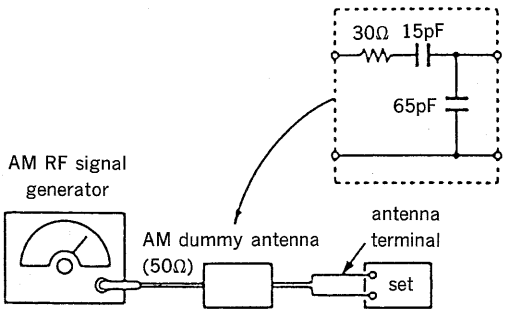
**Specification :** Separation more than 30dB

**Adjustment Location :** See page 19.

## MW Auto Scan/Stop Level Adjustment

**Setting :**

MW/SW button : MW

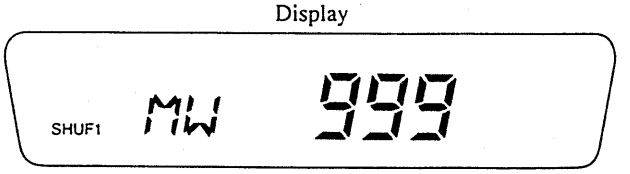



Carrier frequency : 999kHz
30% amplitude modulation by 1kHz signal
Output level : 33dB (44.7μV)

**Procedure :**

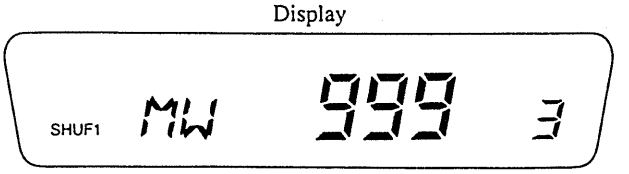
1. Set to the test mode. (See page 16.)
2. Push the [MW/SW] button and set to MW.

Display



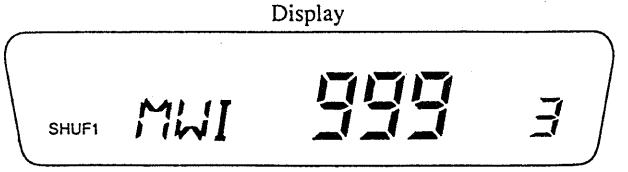

3. Push the preset [3] button.

Display




4. Adjust with the volume RV1 on TU1 so that put light " I " indication on the display window.
But, in case of already indicated " I ", turn the RV1 so that put out light " I " indication and adjustment.

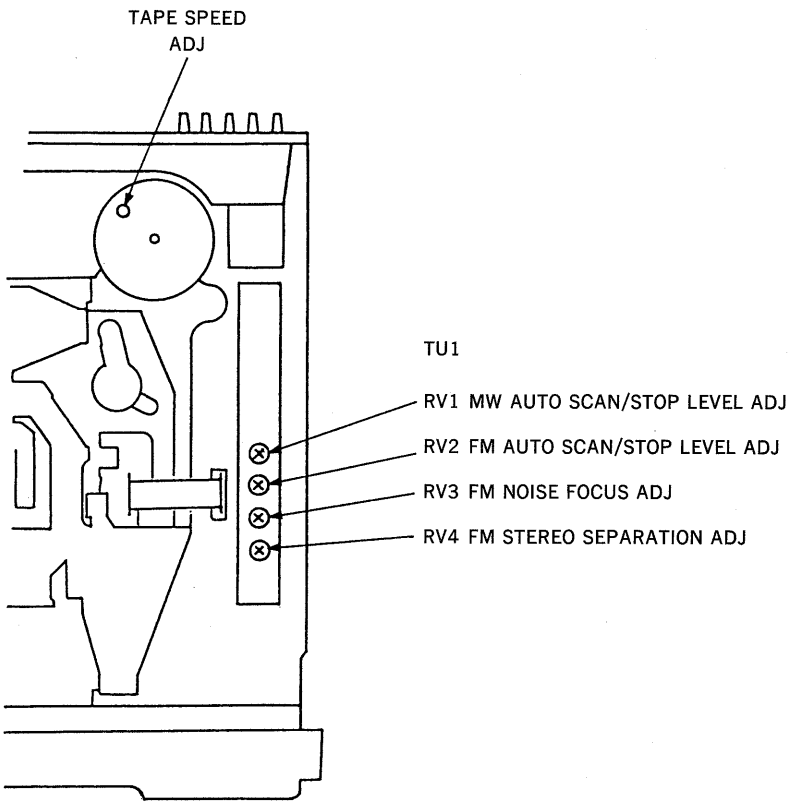
Display




**Adjustment Location :** See page 19.

**Adjustment Location :**

—SET UPPER VIEW—



# SECTION 6
# DIAGRAMS

## 6-1. IC PIN DESCRIPTION

### • IC501 μPD17708GC-523-3B9 (SYSTEM CONTROL)

| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 1 | ILLIN | I | Illumination signal detection input terminal |
| 2 | POS3 | I | Position signal detection input terminal |
| 3 | POS2 | I | Position signal detection input terminal |
| 4 | POS0 | I | Position signal detection input terminal |
| 5 | POS1 | I | Position signal detection input terminal |
| 6 | TAPEON | O | Tape power control output terminal. At TAPE-ON : High output |
| 7 | CM ON | O | Capstan motor control output terminal. At CM-ON : High output |
| 8 | LM LOD | O | Loading motor control output terminal (LOADING direction).<br>At LM-LOD : High output |
| 9 | LM EJ | O | Loading motor control output terminal (EJECT direction).<br>At LM-EJ : High output |
| 10 | TUNON | O | TUNER power control output terminal. At TUNER-ON : High output |
| 11 | FM ON | O | FM power control output terminal.<br>At FM-ON (both playing and behind) : High output |
| 12 | PW ON | O | System power control output terminal. At PW-ON : High output |
| 13 | MUT | O | System mute control output terminal. At MUTE : High output |
| 14 | VOLCE | O | Electric volume serial chip enable output terminal. At VOL-CE : High output |
| 15 | VOLCKO | O | Electric volume serial clock output terminal |
| 16 | VOLSO | O | Electric volume serial data output terminal |
| 17 | AMPON | O | Power amplifier power control output terminal. At AMP-ON : High output |
| 18 | $\overline{\text{AMPMUT}}$ | O | Power amplifier mute control output terminal. At AMP-MUTE : Low output |
| 19 | $\overline{\text{DX}}$ LO | O | DX/LOCAL select control output terminal.<br>At DX : Low output, at LOCAL : High output |
| 20 | $\overline{\text{AM MONO}}$ | O | AM force monaural output terminal. Not used in this set. |
| 21 | GND | — | GND |
| 22 | DSTSEL1 | I | Destination setting terminal. |
| 23 | DSTSEL0 | I | Destination setting terminal. |
| 24 | KEYIN1 | I | KEY input |
| 25 | KEYIN0 | I | KEY input |
| 26 | RC IN0 | I | Rotary commander input terminal |
| 27 | VSM | I | FM/AM common signal meter A/D change input terminal |
| 28 | AMIFIN | — | AM IF input terminal |
| 29 | FMIFIN | — | FM IF input terminal |
| 30 | VDD2 | — | Power supply terminal |
| 31 | FM OSC | — | FM local oscillation input terminal |
| 32 | AM OSC | — | AM local oscillation input terminal |
| 33 | GND | — | GND |
| 34 | N. C. | — | Not used. |
| 35 | EO1 | — | Main charge pump output terminal |
| 36 | TEST0 | — | Device test mode input terminal |
| 37 | $\overline{\text{AM STIN}}$ | — | AM stereo signal detection input terminal. Connected to GND in this set. |
| 38 | $\overline{\text{SEKOUT}}$ | O | SEEK control output terminal. At SEEK : Low output |
| 39 | $\overline{\text{MW}}$ SW | O | MW/SW power select output terminal.<br>At MW : Low output, at SW : High output |
| 40 | BEEP | O | Buzzer control output terminal |
| 41 | KEYACK | I | Key acknowledge input terminal |
| 42 | BU IN | I | Back-up voltage detection input terminal |

| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 43 | MTLSEL | I/O | METAL control input/output terminal. At AUTO METAL: METAL input terminal. At METAL: Low input, at NORMAL: High input. At no AUTO METAL: METAL output terminal. At METAL: Low output, at NORMAL: High output. |
| 44 | DOLON | I/O | DOLBY-NR control input/output terminal. At DOLBY-NR ON: High output |
| 45 | $\overline{\text{AMSIN}}$ | I | Tape music with/without detection input terminal. With music: Low input, without music: High input |
| 46 | $\overline{\text{ST}}$ | I/O | Both as FM STEREO input and FM MONO output terminal.<br>At FM STEREO: Low input, at FM MONO: High output |
| 47 | $\overline{\text{AMS ON}}$ | O | At AMS: Low output |
| 48 | $\overline{\text{N}}$ ROUT | O | Forward/Reverse detection output terminal.<br>At FORWARD: Low output, at REVERSE: High output |
| 49 | TAPMUT | O | Tape mute control output terminal. At MUTE: High output |
| 50 | ILLON | O | Illumination power control output terminal.<br>At ACC-ON: High output (P-SEL: ON) |
| 51 | SD IN | I | Station detector detection input terminal. At with SD: High input |
| 52 | $\overline{\text{NOSESW}}$ | I | Front panel with/without detection input terminal.<br>At with front panel: Low input |
| 53 | REL S | I | Reel table reverse direction rotation detection input terminal |
| 54 | REL T | I | Reel table forward direction rotation detection input terminal |
| 55 | $\overline{\text{ACCIN}}$ | I | ACC power control input terminal. With ACC: Low input |
| 56 | $\overline{\text{TESTIN}}$ | I | Test mode setting input terminal |
| 57 | RC IN1 | I | Rotary commander input terminal |
| 58 | PW SEL | I | Power select first setting input terminal |
| 59 | $\overline{\text{MTLIN}}$ | I | AUTO METAL detection input terminal. At AUTO-METAL: Low input |
| 60 | KEYACT | I | Key action detection input terminal |
| 61 | KEYSEL0 | I | Key function select setting input terminal |
| 62 | KEYSEL1 | I | Key function select setting input terminal |
| 63 | COLORSEL | I | Illumination color first setting input terminal.<br>At AMBER: Low input, at GREEN: High input |
| 64 | LCDCE | O | LCD chip enable output terminal |
| 65 | LCDCKO | O | LCD serial clock output terminal |
| 66 | LCDSO | O | LCD serial data output terminal |
| 67 | $\overline{\text{LCDINH}}$ | O | LCD blank display control output terminal. At LIGHT-OFF: Low output |
| 68 | UNICKI | I | Serial clock input terminal |
| 69 | UNISO | O | Serial data output terminal |
| 70 | UNISI | I | Serial data input terminal |
| 71 | UNICKO | O | Serial clock output terminal |
| 72 | $\overline{\text{BUSON}}$ | O | BUS ON control output terminal |
| 73 | $\overline{\text{SYSRST}}$ | O | System reset control output terminal |
| 74 | VREG | — | CPU regulator output terminal |
| 75 | GND | — | GND |
| 76 | X OUT | — | Connect to crystal (4.5MHz). |
| 77 | X IN | — | Connect to crystal (4.5MHz). |
| 78 | CE | — | Device operation select, CE reset and divided signal input terminal. |
| 79 | VDD | — | Power supply terminal |
| 80 | $\overline{\text{RESET}}$ | — | RESET input terminal. At RESET: Low input |

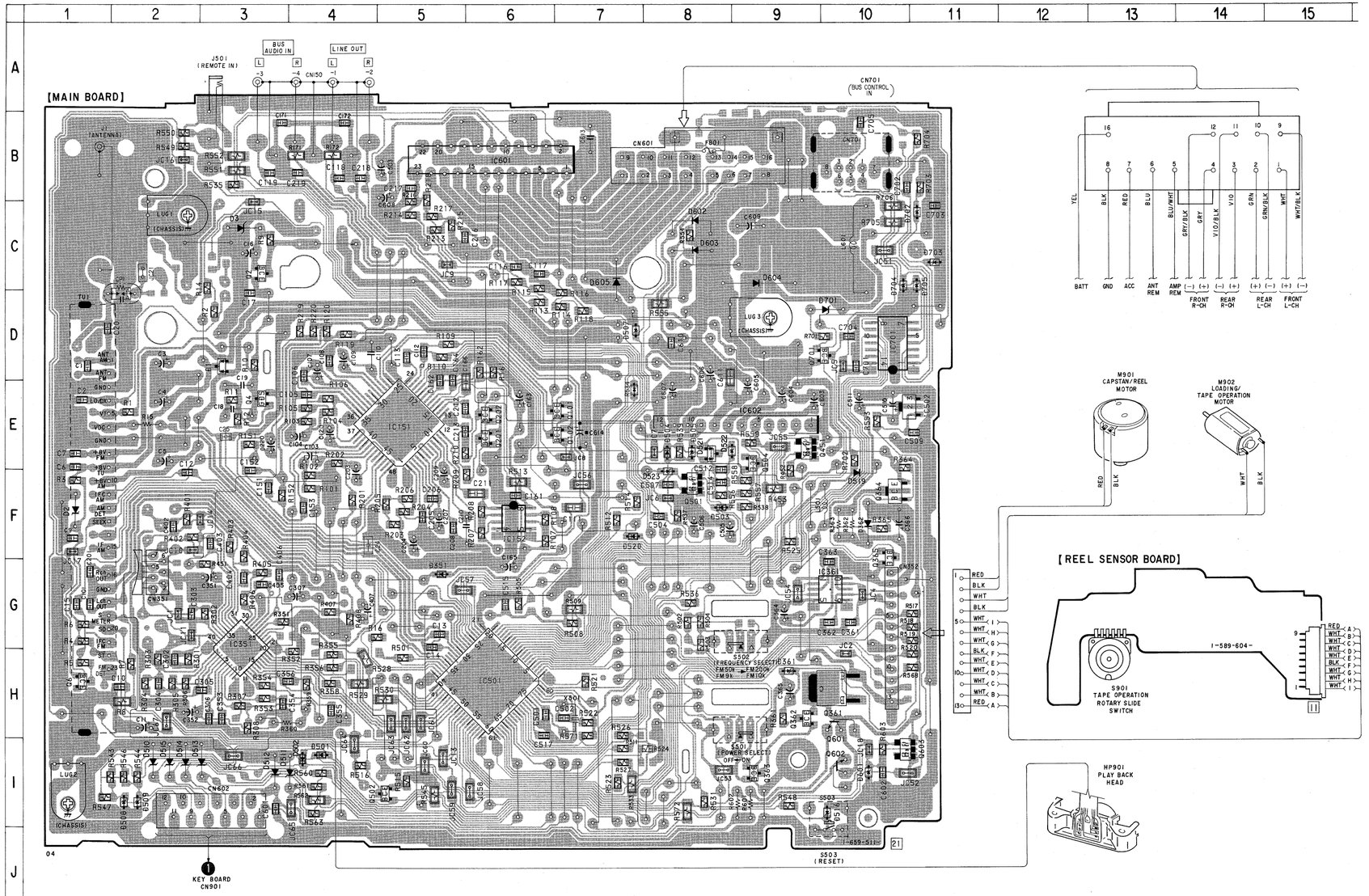
## 6-2. PRINTED WIRING BOARDS—MAIN SECTION—

● **Semiconductor Location**

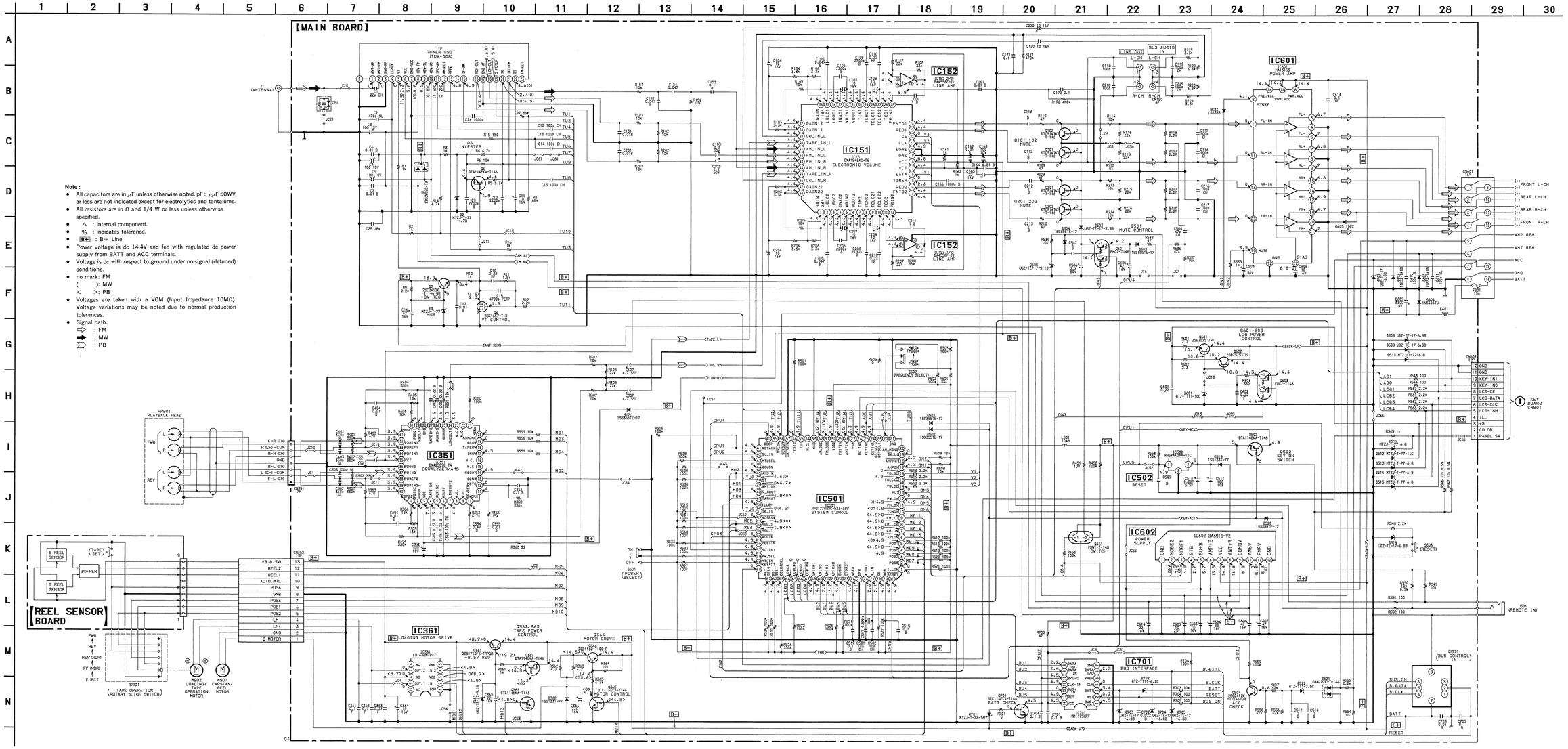
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D1 | D-3 | D704 | C-10 |
| D2 | F-1 | D705 | C-10 |
| D3 | C-3 | | |
| D351 | G-5 | IC151 | E-5 |
| D361 | H-9 | IC152 | F-6 |
| D362 | F-10 | IC351 | G-3 |
| D501 | I-4 | IC361 | G-10 |
| D502 | I-4 | IC501 | H-6 |
| D503 | F-8 | IC502 | E-11 |
| D504 | E-8 | IC601 | B-6 |
| D505 | E-8 | IC602 | E-9 |
| D507 | D-7 | IC701 | D-10 |
| D508 | I-2 | | |
| D509 | I-2 | Q2 | C-3 |
| D510 | I-2 | Q4 | E-3 |
| D511 | I-3 | Q6 | H-1 |
| D512 | I-3 | Q101 | E-7 |
| D513 | I-2 | Q102 | E-7 |
| D514 | I-2 | Q201 | E-6 |
| D515 | I-2 | Q202 | E-6 |
| D516 | I-10 | Q361 | H-10 |
| D519 | F-10 | Q362 | H-9 |
| D520 | F-7 | Q363 | I-9 |
| D521 | E-8 | Q364 | F-10 |
| D522 | E-8 | Q365 | F-10 |
| D523 | F-8 | Q451 | E-9 |
| D601 | I-10 | Q501 | F-8 |
| D602 | C-8 | Q502 | I-5 |
| D603 | C-8 | Q504 | E-9 |
| D604 | C-9 | Q601 | H-10 |
| D605 | C-7 | Q602 | I-10 |
| D701 | D-10 | Q603 | I-11 |
| D702 | C-10 | Q701 | D-10 |
| D703 | C-11 | | |

**Note :**

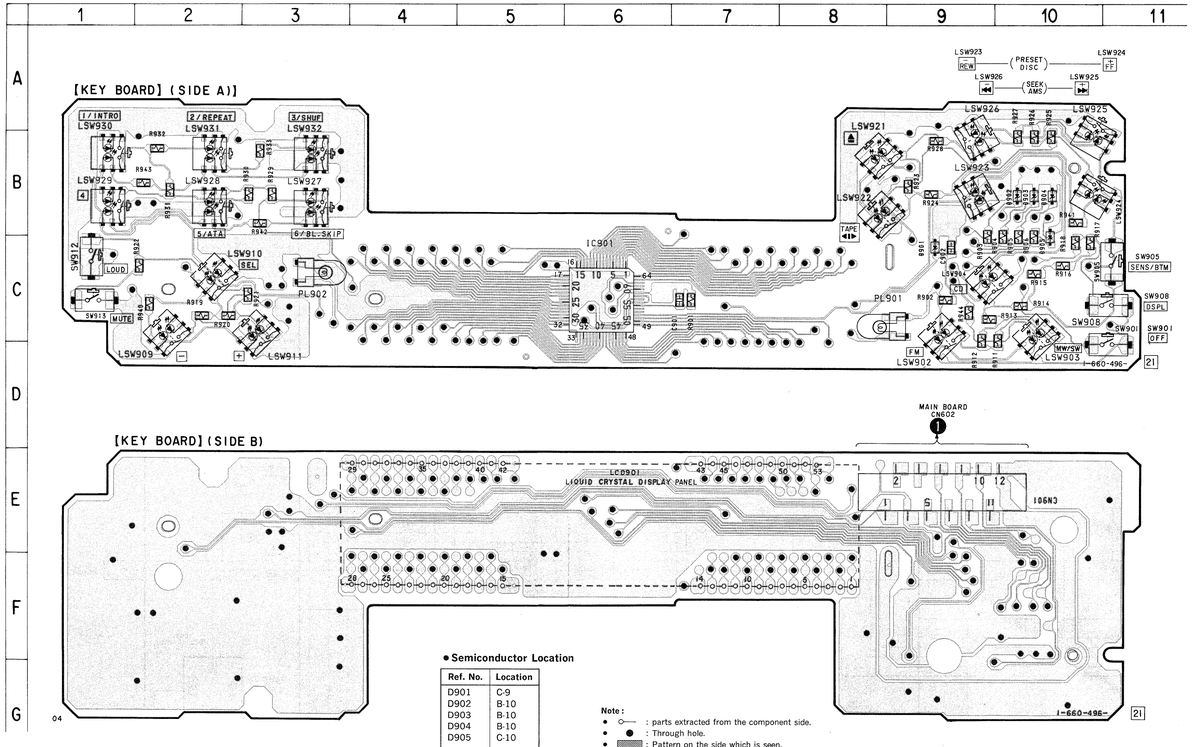
- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.



6-3. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 33 for IC Block Diagrams.


【MAIN BOARD】
【REEL SENSOR BOARD】
IC151
IC152
IC351
IC361
IC501
IC502
IC601
IC602
IC701
Q501 MUTE CONTROL
Q601-605 LCD POWER CONTROL
Q502 KEY ON SWITCH
Q503 RESET
Q504 ACC CHECK
Q701 BATT CHECK
Q362, 363 TAPE POWER CONTROL
Q364 MOTOR DRIVE
Note :
• All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and 1/4 W or less unless otherwise specified.
• △ : internal component.
• % : indicates tolerance.
• B+ : B+ Line
• Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
• Voltage is dc with respect to ground under no-signal (detuned) conditions.
• no mark: FM
( ): MW
< >: PB
• Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
• Signal path.
⇨ : FM
➡ : MW
▰ : PB

## 6-4. PRINTED WIRING BOARD—PANEL SECTION—




● Semiconductor Location

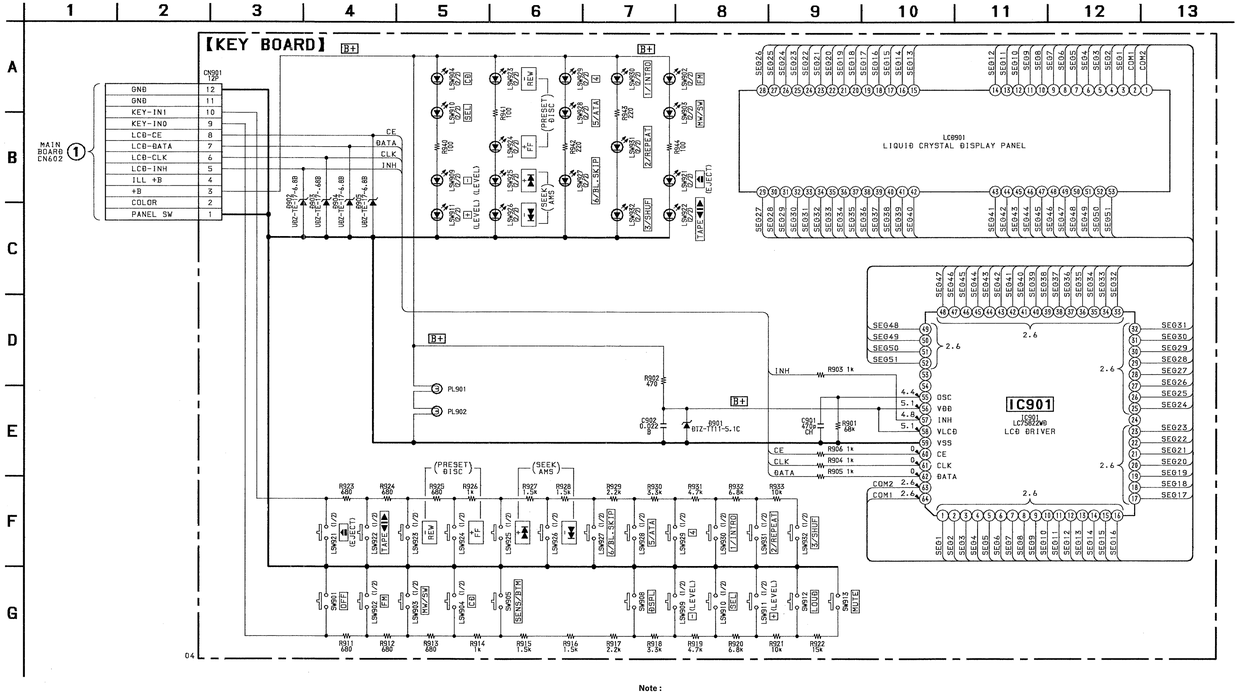
| Ref. No. | Location |
|---|---|
| D901 | C-9 |
| D902 | B-10 |
| D903 | B-10 |
| D904 | B-10 |
| D905 | C-10 |
| IC901 | C-6 |

Note :
- ○— : parts extracted from the component side.
- ● : Through hole.
- ▩ : Pattern on the side which is seen. (The other layer's patterns are not indicated.)





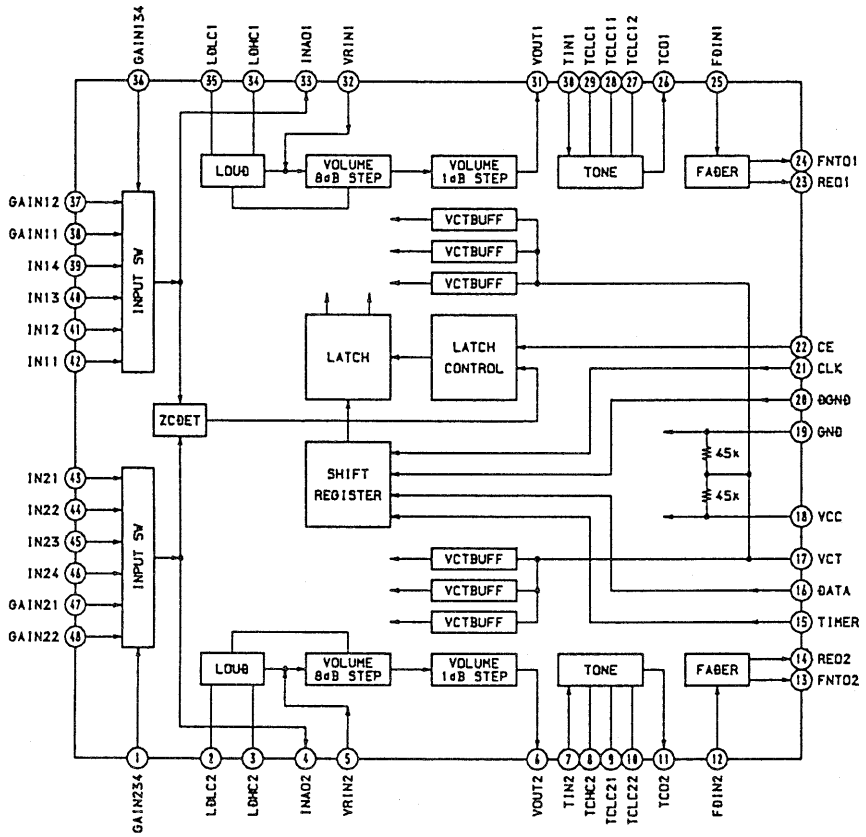
## 6-5. SCHEMATIC DIAGRAM—PANEL SECTION—



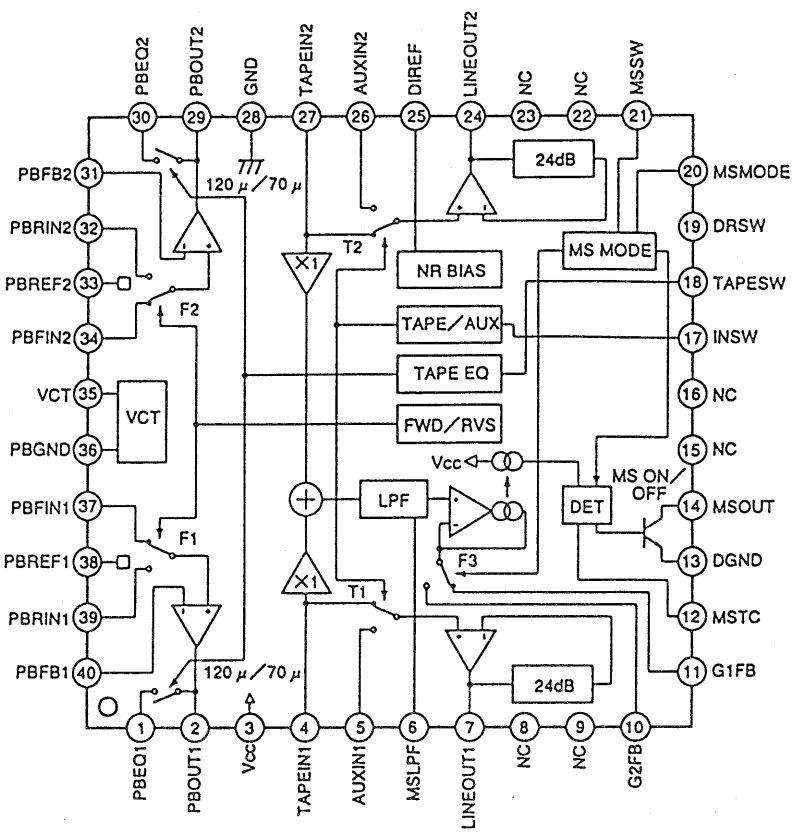

Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

• IC Block Diagrams

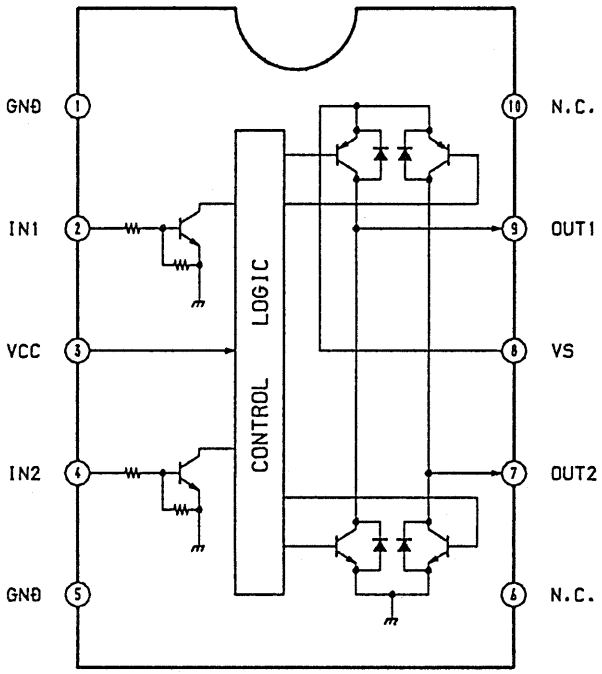
IC151 CXA1946AQ-T6



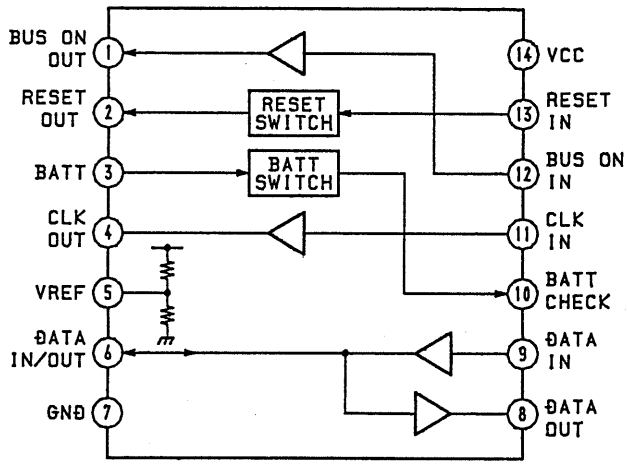

IC351 CXA2509Q-T4



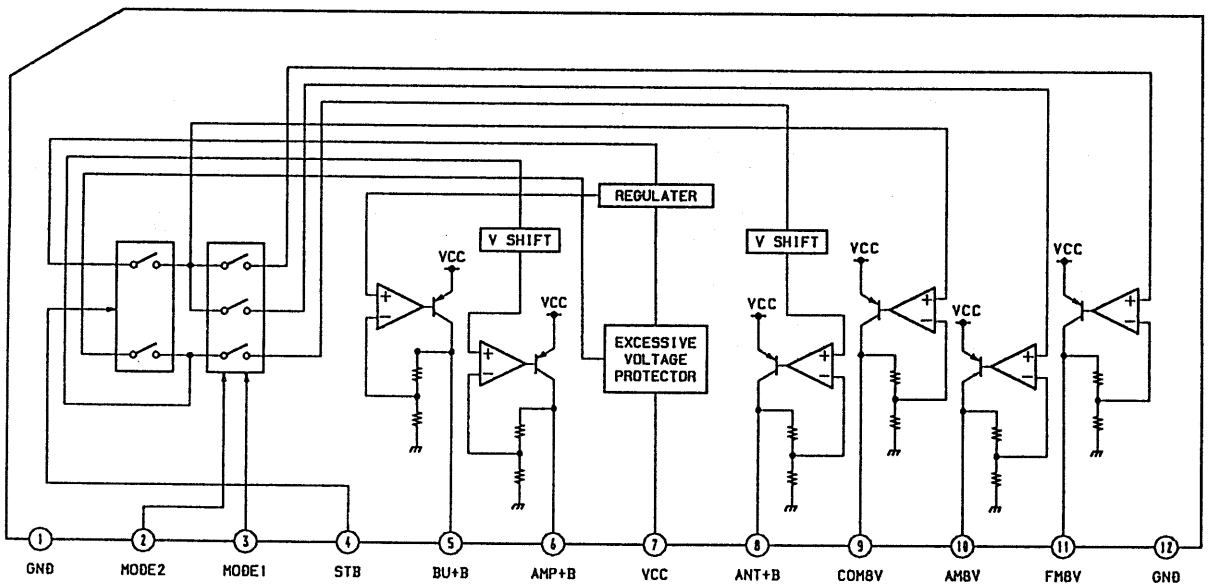
**IC361 LB1638MTP-T1**




**IC701 MM1175XFF**




**IC602 BA3918-V2**

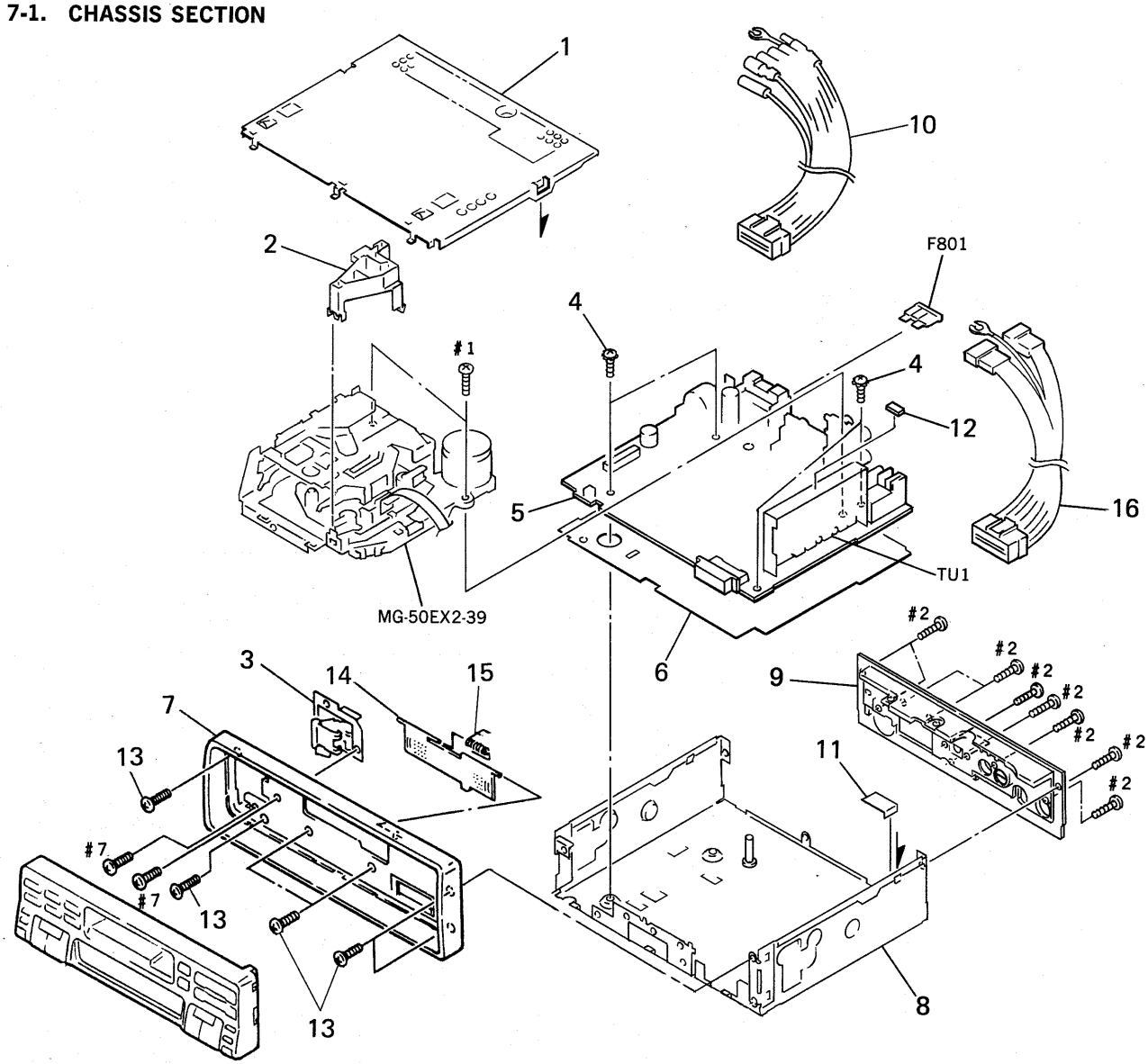


# SECTION 7
# EXPLODED VIEWS

NOTE:

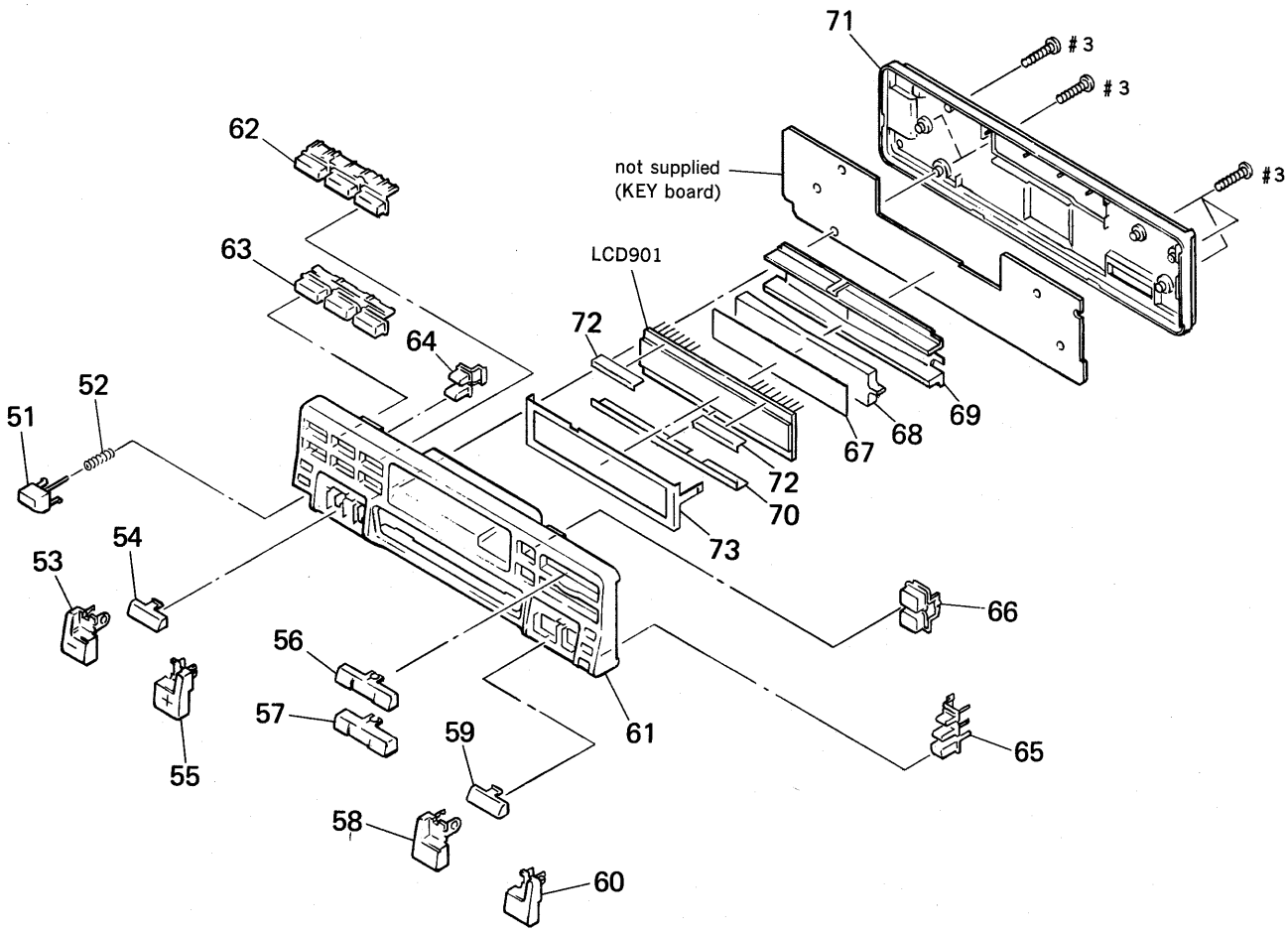
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  TW : Taiwan model

## 7-1. CHASSIS SECTION



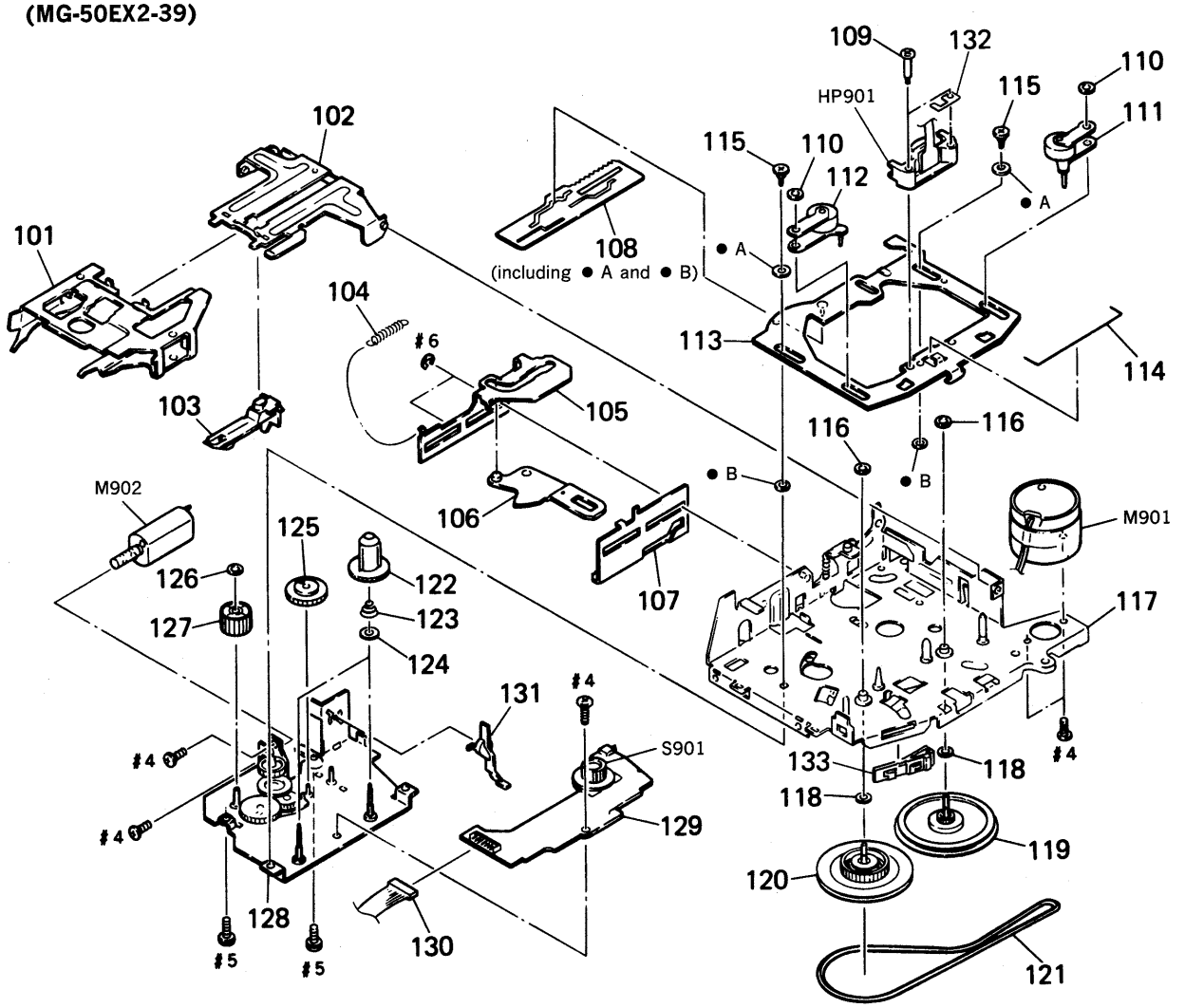

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | X-3369-736-1 | COVER ASSY | |
| 2 | 3-927-799-01 | GUIDE (CASSETTE) | |
| 3 | X-3367-636-1 | LOCK ASSY | |
| 4 | 3-915-923-01 | SCREW, GROUND POINT | |
| * 5 | A-3309-467-A | MAIN BOARD, COMPLETE (E) | |
| * 5 | A-3309-488-A | MAIN BOARD, COMPLETE (TW) | |
| * 6 | 3-931-415-01 | SHEET, INSULATING | |
| 7 | 3-921-728-01 | PANEL, SUB | |
| * 8 | X-3371-519-1 | CHASSIS ASSY | |
| * 9 | 3-931-219-01 | HEAT SINK | |
| 10 | 1-776-207-31 | CORD (WITH CONNECTOR) (E) | |
| * 11 | 3-925-065-11 | SHEET (CU) | |
| 12 | 9-911-840-XX | CUSHION (U) | |
| 13 | 3-907-995-01 | SCREW (2.6X8) (BZN), +PTT | |
| 14 | 3-923-004-71 | DOOR, CASSETTE | |
| 15 | 3-913-076-01 | SPRING (C DOOR), TORSION | |
| 16 | 1-777-262-11 | CORD (WITH CONNECTOR) (N96) (TW) | |
| F801 | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) 15A | |
| TU1 | A-3282-019-A | TUNER UNIT (TUX-008(EA)) | |

## 7-2. FRONT PANEL SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 3-918-689-01 | BUTTON (RELEASE) | |
| 52 | 3-918-693-01 | SPRING (RELEASE) | |
| 53 | 3-918-680-01 | BUTTON (-) | |
| 54 | 3-918-678-01 | BUTTON (SEL) | |
| 55 | 3-918-679-01 | BUTTON (+) | |
| 56 | 3-918-685-01 | BUTTON (SEEK) | |
| 57 | 3-918-686-21 | BUTTON (PRESET) | |
| 58 | 3-918-682-11 | BUTTON (L) | |
| 59 | 3-918-681-01 | BUTTON (U) | |
| 60 | 3-918-683-51 | BUTTON (R) | |
| 61 | 3-933-971-21 | PANEL, FRONT | |
| 62 | 3-918-676-01 | BUTTON (1-3) | |
| 63 | 3-918-677-21 | BUTTON (4-6) | |
| 64 | 3-918-687-01 | BUTTON (2 GANG) | |
| 65 | 3-918-688-01 | BUTTON (3 GANG) | |
| 66 | 3-918-684-01 | BUTTON (EJECT) | |
| * 67 | 3-937-185-01 | SHEET (REFLECTOR) | |
| * 68 | 3-921-731-03 | PLATE, LIGHT GUIDE | |
| * 69 | 3-921-730-01 | HOLDER (LCD) | |
| * 70 | 3-921-726-01 | SHEET (LCD) (L) | |
| 71 | 3-921-729-01 | PANEL, FRONT BACK | |
| * 72 | 3-921-727-01 | SHEET (LCD) (S) | |
| * 73 | 3-925-112-01 | PLATE, GROUND | |
| LCD901 | 1-801-161-21 | DISPLAY PANEL, LIQUID CRYSTAL | |

## 7-3. MECHANISM DECK SECTION (MG-50EX2-39)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | 3-928-222-01 | HOUSING (2), CASSETTE | |
| 102 | 3-912-882-01 | HANGER (2), HOUSING | |
| 103 | 3-912-884-01 | CATCHER | |
| 104 | 3-912-885-01 | SPRING (LOADING LEVER), TENSION | |
| * 105 | 3-912-892-01 | LEVER (B), LOADING | |
| * 106 | 3-912-883-01 | ARM, SUCTION | |
| 107 | 3-922-941-01 | LEVER (LOADING A) | |
| * 108 | X-3370-516-1 | LEVER (SV) ASSY, MODE | |
| 109 | 3-927-100-11 | SCREW (+PS 2X10), SPECIAL | |
| 110 | 3-579-788-01 | WASHER, STOPPER | |
| 111 | X-3368-266-1 | PINCH LEVER (F) ASSY | |
| 112 | X-3368-267-1 | PINCH LEVER (R) ASSY | |
| 113 | X-3370-824-1 | BASE ASSY (HD2), HEAD | |
| 114 | 3-912-879-01 | SPRING, PINCH PRESS | |
| 115 | 3-931-184-01 | SCREW (HB2), STEP | |
| 116 | 3-364-151-01 | WASHER | |
| 117 | X-3368-841-1 | CHASSIS (SV) ASSY (A), MECHANICAL | |
| 118 | 3-701-437-21 | WASHER | |
| 119 | 3-930-932-01 | FLYWHEEL (F) (SEF) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 120 | X-3371-303-1 | CLUTCH (SEF) ASSY, FR | |
| 121 | 3-912-896-01 | BELT | |
| 122 | X-3368-843-1 | GEAR ASSY, REEL | |
| 123 | 3-917-222-01 | SPRING (B-T), COIL | |
| 124 | 3-917-324-01 | WASHER (B-T) | |
| 125 | 3-912-888-03 | GEAR (LOADING E) | |
| 126 | 3-321-813-01 | WASHER, COTTER POLYETHYLENE | |
| 127 | 3-912-889-01 | GEAR (LOADING F) | |
| 128 | X-3368-842-1 | BRACKET (SV) ASSY, REEL | |
| 129 | 1-589-604-11 | REEL SENSOR BOARD | |
| 130 | 1-765-460-12 | CORD (WITH CONNECTOR) | |
| 131 | 3-916-358-01 | LEVER (TAPE IN 2) | |
| * 132 | 3-917-258-01 | PLATE, GROUND | |
| 133 | 3-919-553-01 | GUIDE (BELT) | |
| HP901 | 1-500-196-21 | HEAD, MAGNETIC (PLAYBACK) | |
| M901 | X-3368-684-1 | MOTOR ASSY, MAIN (CAPSTAN/REEL) | |
| M902 | X-3368-685-1 | MOTOR ASSY, SUB (LOADING/TAPE OPERATION) | |
| S901 | 1-692-885-11 | SWITCH, ROTARY SLIDE (TAPE OPERATION) | |

KEY

# SECTION 8
# ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

- Abbreviation
  TW : Taiwan model

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | KEY BOARD | | | |
| | | ********* | | | |
| * | 3-921-730-01 | HOLDER (LCD) | | | |
| * | 3-921-731-03 | PLATE, LIGHT GUIDE | | | |
| * | 3-937-185-01 | SHEET (REFLECTOR) | | | |
| | | < CAPACITOR > | | | |
| C901 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C902 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| | | < CONNECTOR > | | | |
| CN901 | 1-764-423-11 | PIN, CONNECTOR 12P | | | |
| | | < DIODE > | | | |
| D901 | 8-719-977-00 | DIODE | DTZ5.1C | | |
| D902 | 8-719-056-83 | DIODE | UDZ-TE-17-6.8B | | |
| D903 | 8-719-056-83 | DIODE | UDZ-TE-17-6.8B | | |
| D904 | 8-719-056-83 | DIODE | UDZ-TE-17-6.8B | | |
| D905 | 8-719-056-83 | DIODE | UDZ-TE-17-6.8B | | |
| | | < IC > | | | |
| IC901 | 8-759-330-60 | IC | LC75822WD | | |
| | | < LIQUID CRYSTAL DISPLAY > | | | |
| LCD901 | 1-801-161-21 | DISPLAY PANEL, LIQUID CRYSTAL | | | |
| | | < SWITCH > | | | |
| LSW902 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (FM) |
| LSW903 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (MW/SW) |
| LSW904 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (CD) |
| LSW909 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (-) |
| LSW910 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (SEL) |
| LSW911 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (+) |
| LSW921 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (⏏) |
| LSW922 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (TAPE ◀❚▶) |
| LSW923 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (PRESET -, DISC REW) |
| LSW924 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (PRESET +, DISC FF) |
| LSW925 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (SEEK +, AMS ⏭) |
| LSW926 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (SEEK -, AMS ⏮) |
| LSW927 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (6 BL.SKIP) |
| LSW928 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (5 ATA) |
| LSW929 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (4) |
| LSW930 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (1 INTRO) |
| LSW931 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (2 REPEAT) |
| LSW932 | 1-762-142-12 | SWITCH, KEY BOARD (WITH LED) | | | (3 SHUF) |
| | | < PILOT LAMP > | | | |
| PL901 | 1-517-407-21 | LAMP, PILOT | | | |
| PL902 | 1-517-407-21 | LAMP, PILOT | | | |
| | | < RESISTOR > | | | |
| R901 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R902 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R903-906 | 1-208-437-41 | METAL GLAZE | 1K | 2% | 1/10W |
| R911-913 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R914 | 1-208-437-41 | METAL GLAZE | 1K | 2% | 1/10W |
| R915 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R916 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R917 | 1-208-445-41 | METAL GLAZE | 2.2K | 2% | 1/10W |
| R918 | 1-208-449-41 | METAL GLAZE | 3.3K | 2% | 1/10W |
| R919 | 1-208-453-41 | METAL GLAZE | 4.7K | 2% | 1/10W |
| R920 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R921 | 1-208-462-41 | METAL GLAZE | 10K | 2% | 1/10W |
| R922 | 1-208-810-11 | METAL GLAZE | 15K | 2% | 1/10W |
| R923-925 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R926 | 1-208-437-41 | METAL GLAZE | 1K | 2% | 1/10W |
| R927 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R928 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R929 | 1-208-445-41 | METAL GLAZE | 2.2K | 2% | 1/10W |
| R930 | 1-208-449-41 | METAL GLAZE | 3.3K | 2% | 1/10W |
| R931 | 1-208-453-41 | METAL GLAZE | 4.7K | 2% | 1/10W |
| R932 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R933 | 1-208-462-41 | METAL GLAZE | 10K | 2% | 1/10W |
| R940 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| R941 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| R942 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R943 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R944 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| | | < SWITCH > | | | |
| SW901 | 1-762-357-11 | SWITCH (OFF) | | | |
| SW905 | 1-762-357-11 | SWITCH (SENS/BTM) | | | |
| SW908 | 1-762-357-11 | SWITCH (DSPL) | | | |
| SW912 | 1-762-357-11 | SWITCH (LOUD) | | | |
| SW913 | 1-762-357-11 | SWITCH (MUTE) | | | |
| ********** | | | | | |
| * | A-3309-467-A | MAIN BOARD, COMPLETE (E) | | | |
| * | A-3309-488-A | MAIN BOARD, COMPLETE (TW) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C2 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C3-5 | | | | | |
| | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C6 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C7 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C9 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C10 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C11 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C12-15 | | | | | |
| | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C16 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C17 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C18 | 1-136-169-00 | FILM | 0.22uF | 5% | 50V |
| C19 | 1-137-368-11 | FILM | 0.0047uF | 5% | 50V |
| C20 | 1-216-295-00 | CONDUCTOR, CHIP | (2012) | | |
| C24 | 1-163-205-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C25 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C101 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% | 50V |
| C103 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C104 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C105 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C106 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C107 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C108 | 1-163-014-00 | CERAMIC CHIP | 0.0027uF | 10% | 50V |
| C109 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C110 | 1-136-169-00 | FILM | 0.22uF | 5% | 50V |
| C111 | 1-107-682-11 | CERAMIC CHIP | 1uF | 10% | 16V |
| C112 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C113 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C116-119 | | | | | |
| | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C120 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C151 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C152 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C153 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C161 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C162 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C163 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C164 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C165 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C166 | 1-163-205-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C171 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C172 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C201 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% | 50V |
| C203 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C204 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C205 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C206 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C207 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C208 | 1-163-014-00 | CERAMIC CHIP | 0.0027uF | 10% | 50V |
| C209 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C210 | 1-136-169-00 | FILM | 0.22uF | 5% | 50V |
| C211 | 1-107-682-11 | CERAMIC CHIP | 1uF | 10% | 16V |
| C212 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C213 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C216-219 | | | | | |
| | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C220 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C302 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C303 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C304 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C305 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C306 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C307 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C351 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C352 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C353 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C354 | 1-107-823-11 | CERAMIC CHIP | 0.47uF | 10% | 16V |
| C355 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C356 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C361 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C362 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C363 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C364 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C365 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C366 | 1-124-120-11 | ELECT | 220uF | 20% | 25V |
| C402 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C403 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C404 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C405 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C406 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C407 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C501 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C502 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C503 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C504 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C505 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C506 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C507 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C509 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C510 | 1-125-705-11 | CAPACITOR | 0.22F | | 5.5V |
| C511 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C512 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C514 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C515 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C517 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C601 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C602 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C603 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C604 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C605 | 1-126-096-11 | ELECT | 10uF | 20% | 35V |
| C606 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C607 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C608 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C609 | 1-126-936-11 | ELECT | 3300uF | 20% | 16V |
| C610 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C611 | 1-163-181-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C613 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C614 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C701 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C702 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C703 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C704 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C705 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| | | < JACK > | | | |
| CN150 | 1-774-699-11 | JACK, PIN 4P (LINE OUT/BUS AUDIO IN) | | | |
| | | < CONNECTOR > | | | |
| CN351 | 1-766-260-11 | CONNECTOR, FFC/FPC (ZIF) 7P | | | |
| * CN352 | 1-506-995-11 | PIN, CONNECTOR (PC BOARD) 13P | | | |
| CN601 | 1-774-701-11 | PIN, CONNECTOR 16P | | | |
| CN602 | 1-764-422-11 | PLUG, CONNECTOR 12P | | | |
| CN701 | 1-580-907-31 | PLUG, CONNECTOR (BUS CONTROL IN) | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < DISCHARGE GAP > | |
| CP1 | 1-519-504-11 | GAP, DISCHARGE | |
| | | < DIODE > | |
| D1 | 8-719-991-65 | DIODE SB02W03C | |
| D2 | 8-719-010-34 | DIODE UZ-4.7BSC | |
| D3 | 8-719-110-17 | DIODE RD10ESB2 | |
| D351 | 8-719-988-62 | DIODE 1SS355 | |
| D361 | 8-719-977-22 | DIODE DTZ9.1 | |
| D362 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D501 | 8-719-988-62 | DIODE 1SS355 | |
| D502 | 8-719-988-62 | DIODE 1SS355 | |
| D503 | 8-719-988-62 | DIODE 1SS355 | |
| D504 | 8-719-988-62 | DIODE 1SS355 | |
| D505 | 8-719-977-22 | DIODE DTZ9.1 | |
| D507 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D508 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D509 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D510 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D511 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D512 | 8-719-923-93 | DIODE MTZJ-T-77-16C | |
| D513 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D514 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D515 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D516 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D519 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D520 | 8-719-988-62 | DIODE 1SS355 | |
| D521 | 8-719-914-43 | DIODE DAN202K | |
| D522 | 8-719-977-17 | DIODE DTZ7.5C | |
| D523 | 8-719-976-88 | DIODE DTZ3.9B | |
| D601 | 8-719-978-50 | DIODE DTZ-TT11-10C | |
| D602 | 8-719-200-82 | DIODE 11ES2 | |
| D603 | 8-719-200-82 | DIODE 11ES2 | |
| D604 | 8-719-049-38 | DIODE 1N5404TU | |
| D605 | 8-719-200-02 | DIODE 10E2 | |
| D701 | 8-719-923-93 | DIODE MTZJ-T-77-16C | |
| D702 | 8-719-105-99 | DIODE RD6.2M-B1 | |
| D703 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D704 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D705 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| | | < FUSE > | |
| F801 | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) 15A | |
| | | < IC > | |
| IC151 | 8-752-075-48 | IC CXA1946AQ-T6 | |
| IC152 | 8-759-909-71 | IC BA4558F | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC351 | 8-752-076-05 | IC CXA2509Q-T4 | |
| IC361 | 8-759-823-87 | IC LB1638M | |
| IC501 | 8-759-398-39 | IC uPD17708GC-523-3B9 | |
| IC502 | 8-759-097-36 | IC RH5VA40AA | |
| IC601 | 8-759-369-42 | IC HA13153 | |
| IC602 | 8-759-347-49 | IC BA3918-V2 | |
| IC701 | 8-759-096-16 | IC MM1175XFF | |
| | | < JACK > | |
| J1 | 1-764-808-14 | JACK (ANTENNA) (E) | |
| J1 | 1-770-279-12 | JACK, ANTENNA (ISO) (TW) | |
| J501 | 1-566-822-41 | JACK (REMOTE IN) | |
| | | < JUMPER RESISTOR > | |
| JC1 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC2 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC4-11 | | | |
| | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC13 | 1-216-296-00 | CONDUCTOR, CHIP (3216) | |
| JC14 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC15 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC17 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC18 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC21 | 1-216-295-00 | CONDUCTOR, CHIP (2012) | |
| JC51-67 | | | |
| | 1-216-296-00 | CONDUCTOR, CHIP (3216) | |
| | | < COIL > | |
| L501 | 1-410-971-11 | INDUCTOR 10uH | |
| L601 | 1-411-669-12 | COIL, CHOKE | |
| | | < EARTH TERMINAL > | |
| LUG1-3 | | | |
| * | 1-537-738-21 | TERMINAL, EARTH | |
| | | < TRANSISTOR > | |
| Q2 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q4 | 8-729-021-94 | TRANSISTOR 2SK1657-T1B | |
| Q6 | 8-729-027-23 | TRANSISTOR DTA114EKA-T146 | |
| Q101 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q102 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q201 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q202 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q361 | 8-729-921-48 | TRANSISTOR 2SD1760F5-Q | |
| Q362 | 8-729-027-23 | TRANSISTOR DTA114EKA-T146 | |
| Q363 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q364 | 8-729-106-60 | TRANSISTOR 2SB1115A | |
| Q365 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q451 | 8-729-903-10 | TRANSISTOR FMW1 | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q501 | 8-729-921-25 | TRANSISTOR FMC2 | |
| Q502 | 8-729-027-23 | TRANSISTOR DTA114EKA-T146 | |
| Q504 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q601 | 8-729-030-18 | TRANSISTOR 2SD2525 | |
| Q602 | 8-729-030-18 | TRANSISTOR 2SD2525 | |
| Q603 | 8-729-921-25 | TRANSISTOR FMC2 | |
| Q701 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| | | < RESISTOR > | |
| R1-3 | | | |
| | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W | |
| R4 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R5 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R6 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R7 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R8 | 1-216-242-00 | METAL GLAZE 68K 5% 1/8W | |
| R9 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R10 | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W | |
| R11 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R12 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R14 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R15 | 1-249-407-11 | CARBON 150 5% 1/4W | |
| R16 | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W | |
| R101 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R102 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R103 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R104 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R105 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R106 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R107 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R108 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R109 | 1-216-017-00 | METAL GLAZE 47 5% 1/10W | |
| R110 | 1-216-017-00 | METAL GLAZE 47 5% 1/10W | |
| R113 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R114 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R115 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R116 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R117 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R118 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R119 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R120 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R151 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R152 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R161 | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W | |
| R162 | 1-216-049-11 | METAL GLAZE 1K 5% 1/10W | |
| R171 | 1-216-262-00 | METAL CHIP 470K 5% 1/8W | |
| R172 | 1-216-262-00 | METAL CHIP 470K 5% 1/8W | |
| R201 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R202 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |

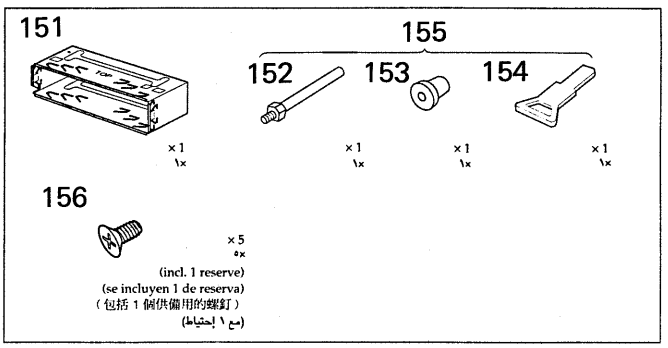
**MAIN**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R203 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R204 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R205 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R206 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R207 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R208 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R209 | 1-216-017-00 | METAL GLAZE | 47 | 5% | 1/10W |
| R210 | 1-216-017-00 | METAL GLAZE | 47 | 5% | 1/10W |
| R213 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R214 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R215 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R216 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R217 | 1-216-129-00 | METAL CHIP | 2.2M | 5% | 1/10W |
| R218 | 1-216-129-00 | METAL CHIP | 2.2M | 5% | 1/10W |
| R219 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R220 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R301 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R302 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R303 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R304 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R305 | 1-216-076-00 | METAL CHIP | 13K | 5% | 1/10W |
| R306 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R307 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R308 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R351 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R352 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R353 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R354 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R355 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R356 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R358 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R359 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R360 | 1-247-791-00 | CARBON | 22 | 5% | 1/4W |
| R361 | 1-216-049-11 | METAL GLAZE | 1K | 5% | 1/10W |
| R362 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R363 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R364 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R365 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R401 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R402 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R403 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R404 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R405 | 1-216-076-00 | METAL CHIP | 13K | 5% | 1/10W |
| R406 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R407 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R408 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R451 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| R452 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R453 | 1-216-246-00 | METAL GLAZE | 100K | 5% | 1/8W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R501-503 | | | | | |
| | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R504 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R505 | 1-216-295-00 | CONDUCTOR, CHIP | | | (2012) |
| R508 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R509 | 1-216-222-00 | METAL GLAZE | 10K | 5% | 1/8W |
| R511 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R512 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R513 | 1-216-206-00 | METAL GLAZE | 2.2K | 5% | 1/8W |
| R514 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R515 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R516-527 | | | | | |
| | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R528-530 | | | | | |
| | 1-216-246-00 | METAL GLAZE | 100K | 5% | 1/8W |
| R531 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R533 | 1-216-246-00 | METAL GLAZE | 100K | 5% | 1/8W |
| R534 | 8-719-988-62 | DIODE 1SS355 | | | |
| R535 | 1-216-049-11 | METAL GLAZE | 1K | 5% | 1/10W |
| R536 | 1-216-089-00 | METAL GLAZE | 47K | 5% | 1/10W |
| R537 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R538 | 1-216-017-00 | METAL GLAZE | 47 | 5% | 1/10W |
| R539 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R543 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| R544 | 1-216-025-00 | METAL GLAZE | 100 | 5% | 1/10W |
| R545 | 1-216-198-00 | METAL GLAZE | 1K | 5% | 1/8W |
| R546 | 1-208-806-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R547 | 1-208-806-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R548 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R549 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R550 | 1-208-806-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R551 | 1-216-174-00 | METAL GLAZE | 100 | 5% | 1/8W |
| R552 | 1-216-174-00 | METAL GLAZE | 100 | 5% | 1/8W |
| R553 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R554 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R555 | 1-216-206-00 | METAL GLAZE | 2.2K | 5% | 1/8W |
| R556-558 | | | | | |
| | 1-216-089-00 | METAL GLAZE | 47K | 5% | 1/10W |
| R559 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R560 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R561 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R562 | 1-216-206-00 | METAL GLAZE | 2.2K | 5% | 1/8W |
| R563 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R568 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R571 | 1-216-097-00 | METAL GLAZE | 100K | 5% | 1/10W |
| R572 | 1-216-246-00 | METAL GLAZE | 100K | 5% | 1/8W |
| R601 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/6W |
| R602 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/6W |
| R603 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R701 | 1-216-295-00 | CONDUCTOR, CHIP | (2012) | | |
| R702 | 1-216-017-00 | METAL GLAZE | 47 | 5% 1/10W | |
| R703 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R704 | 1-216-025-00 | METAL GLAZE | 100 | 5% 1/10W | |
| R705 | 1-216-174-00 | METAL GLAZE | 100 | 5% 1/8W | |
| R706 | 1-216-246-00 | METAL GLAZE | 100K | 5% 1/8W | |
| | | < SWITCH > | | | |
| S501 | 1-571-478-11 | SWITCH, SLIDE (POWER SELECT) | | | |
| S502 | 1-571-478-11 | SWITCH, SLIDE (FREQUENCY SELECT) | | | |
| S503 | 1-692-431-21 | SWITCH, TACTILE (RESET) | | | |
| | | < TUNER > | | | |
| TU1 | A-3282-019-A | TUNER UNIT (TUX-008(EA)) | | | |
| | | < VIBRATOR > | | | |
| X501 | 1-578-785-11 | VIBRATOR, CRYSTAL (4.5MHz) | | | |
| | | MISCELLANEOUS | | | |
| 10 | 1-776-207-31 | CORD (WITH CONNECTOR) | | | |
| 130 | 1-765-460-12 | CORD (WITH CONNECTOR) | | | |
| F801 | 1-533-331-11 | FUSE (BLADE TYPE) (AUTO FUSE) 15A | | | |
| HP901 | 1-500-196-21 | HEAD, MAGNETIC (PLAYBACK) | | | |
| M901 | X-3368-684-1 | MOTOR ASSY, MAIN (CAPSTAN/REEL) | | | |
| M902 | X-3368-685-1 | MOTOR ASSY, SUB (LOADING/TAPE OPERATION) | | | |
| S901 | 1-692-885-11 | SWITCH, ROTARY SLIDE (TAPE OPERATION) | | | |
| | | ACCESSORIES & PACKING MATERIALS | | | |
| | 1-776-207-31 | CORD (WITH CONNECTOR) (E) | | | |
| | 1-777-262-11 | CORD (WITH CONNECTOR) (N96) (TW) | | | |
| | 3-856-352-11 | MANUAL, INSTRUCTION (ENGLISH, SPANISH, CHINESE, ARABIC) | | | |
| | 3-856-353-11 | MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, CHINESE, ARABIC) (E) | | | |
| | X-3367-795-1 | CASE ASSY | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | HARDWARE LIST | |
| #1 | 7-621-770-67 | SCREW +PTT 2.6X6 (S) | |
| #2 | 7-621-770-XX | SCREW +PTT 2.6X8 (S) | |
| #3 | 7-685-106-19 | SCREW +P 2X10 TYPE2 NON-SLIT | |
| #4 | 7-627-553-17 | PRECISION SCREW +P 2X2 TYPE 3 | |
| #5 | 7-628-253-00 | SCREW +PS 2X4 | |
| #6 | 7-624-104-04 | STOP RING 2.0, TYPE -E | |
| #7 | 7-621-772-10 | SCREW +B 2X4 | |
| | | MOUNTING HARDWARE | |
| * 151 | 3-916-161-01 | FRAME, FITTING (E) | |
| 152 | 3-386-828-01 | SCREW, FITTING | |
| 153 | 3-349-410-01 | BUSHING | |
| 154 | 3-388-078-01 | KEY | |
| 155 | X-3370-077-1 | SCREW ASSY (AE.KEY), FITTING | |
| 156 | X-3371-913-1 | SCREW ASSY (J) | |



9-923-515-11

Sony Corporation
Mobile Electronics Company



English
96C047018-1
Printed in Singapore
© 1996. 3
Published by Home A & V Products Div.
Quality Engineering Dept.